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BOLIVIAN HEALTH NORM NB-SNS-02-96

CARE FOR WOMEN AND THE NEWBORN

IN HEALTH POST, HEALTH CENTERS AND DISTRICT HOSPITALS

MINISTRY OF HUMAN DEVELOPMENT
NATIONAL SECRETARIAT OF HEALTH

MOTHERCARE BOLIVIA

A

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PRESENTATION

The National Secretariat of Health has acquired experience in formulating norms and procedures related to health care. Many documents, some of them disperse and others more complete contain that experience, that is extremely valuable.

Up to now, one of the characteristics of the documents related to norms has been its general approach and the development of activities and tasks related to preventive support and health care procedures without any complications. This has been done with little Knowledge and technical resources to attend obstetrical emergencies, which is the one that kills mothers, children and newborns.

This way, the National Secretariat of Health, with its policy pretends to return the rights for health and life, registers a new landmark in this task of protecting health of women and children of Bolivia.

The document that I am pleased to present is an integrated set of knowledge and application resources content in definitions, rules, and protocols. This new format responds to the need of underline the importance of care for obstetrical and neonatal pathology through protocols that show, in a didactic way, what to do in each case, according to the functions assigned for levels I and II, to which this document is addressed to.

The technical competence constitutes an element of care, that will be only possible to reach if the norms are accepted and apply keeping in perspective the need to enrich the institutional practice to improve results.

This norm, not only demands an administrative obligation, it demands a moral commitment of all those who daily give their time and effort in favor to women and children's care.

This document, also has a cooperation component, since it has been developed by MotherCare Bolivian Project in close cooperation with the Direction of Women's and Children's Health and the National Secretariat of Health. This document has as an advantage the back curriculum proposal for in-service training, that will dramatically improve the problems solving during pregnancy, partum, puerperium and newborn problems.

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**GENERAL NORMATIVE FRAMEWORK
WOMEN'S AND CHILD'S HEALTH
CONCEPTS, DEFINITIONS AND REGULATIONS**

INTRODUCTION

This chapter contains definitions, regulations, guidelines and the basic characteristics to be applied in health facilities. Teaching and/or assistant staff will be able to contribute and improve health prevention and recovery of women and children under 5 years, and this way support the reduction of morbidity and mortality rates.

Health care definitions, regulations and protocols that are introduced in this book constitute a normative instrument, and its application is compulsory. The elaboration has followed different stages, such as consultation, proposals by specialists, working teams formed in order to review proposals, validation meetings with health staff at local levels, pilot applications and edition review.

The progress from normative instruments -- very well done but general -- to others -- at present -- to provide health care concepts, definitions, regulations and protocols to successfully face problems and processes which cause morbidity and mortality among women and children in our country, is fundamental since they provide consistence and reliability to continue this process.

With these concepts, definitions, regulations and protocols (all of them constitute the norm) quality care can be reached, avoiding that every service user, with the same risk level will be cared in a different manner; meaning, the technical behavior is regulated, but not human relations. These relations are solidary, respectful and friendly that the health personnel should establish with the patient.

On the other hand, there are protocols addressed to face problems, that is to say morbidities and also processes such as pregnancy; delivery; puerperium and breastfeeding; fetal; neonatal and child development and growth. These allow us to understand that health care for women and children is altogether a series of interdependent events, finally with the only purpose to promote reproductive health among women and children and the very best growth and development for our children.

NORMA BOLIVIANA DE SALUD NB-SNS-02-96. This norm is consistent with the Programa Nacional de Atención Integral a la Salud de la Mujer; the Programa Nacional de Atención Integral al Niño Menor de 5 Años and with IBNORCA, OPS/OMS, CLAP, FIGO, FHI and MotherCare guidelines.

Therefore, care provided to women and children in health facilities should not be considered as a routine but it should include all quality and ethical components, since care is addressed to prevent complications or to detect them timely -- in order to fully or partially solve them -- or to ask for help to higher level health facilities. We pretend to reduce the impact of diseases such as disability and mortality which in turn cause personal, family and social suffering.

This chapter seeks also to recover the dignity of individuals, specially of women and children -- as a patient -- through the understanding of local health teams, individuals who deserve to be timely cared with a great quality care, warmth, diligence and respect towards their cultural and gender conditions.

But health problems are not solved only through the application of protocols. The infrastructure, equipment and supplies; the prestige of the facility within the community, network services (attention of increasing complexity cases) not only as an isolated health facility; the existence of transportation and communication means for referral of complications; popular participation in health, coordinated work with base organizations; health advisory and team work where each member assume his/her responsibility, also play an important role.

Definitions, regulations and protocols contained in this document, as well as the organization of network services, popular participation in health, friendly care provided to women and children, availability of doctors, transportation and communication means among other factors, will help local health teams to reach the following objectives, which are part of every health facility's mission:

OBJECTIVES

1. To promote women's reproductive health and children's growth and development.
2. To provide quality solidary and integrate care focused on pregnancy, delivery and puerperal risk; complications of incomplete abortions; children's growth and development and at any other circumstance where women and children have contact with health facilities in order to timely prevent, detect and treat maternal and child morbidity.
3. To participate in the detection, care and solution of gynecobstetric and pediatric emergencies, or to start problem solving processes before complying with the referral.

4. To provide immediate care for the new born in order to prevent depression at birth and to decrease neonatal morbidity and mortality.

Since this is a dynamic process, norms should be regularly reviewed and updated, and adapted to departmental or local levels for a better performance.

THE NORMALIZATION PROCESS

Norm is altogether written regulations, guidelines and characteristics addressed to:

- Standardize the performance of a health team to improve the care quality and make comparative results;
- Establish supportive technical and legal basis both for team performance and to guarantee safe and quality care;
- Assign responsibilities by care level of and complexity level and type of staff where necessary;
- Identify initial parameters for medical auditing activities and for policy making regarding the quality care.

QUALITIES OF NORMS

- To be consistent with scientific and technical updated knowledge;
- To have specialists, the health team use it, participating in their elaboration in order to guarantee updated knowledge so that their acceptance and application are assured;
- The process should be conducted by higher technical and administrative level staff to assure the development of proposed innovations;
- Norms mean a step forward towards the development of human resources and health services for the benefit of the population.

OVERALL DEFINITIONS AND CONCEPTS

Norms: "Document, established on consensus and approved by a recognized organization, providing common or recurrent use of regulations; guidelines and characteristics for certain activities or for its results assuring an optimum degree of order within a given context" ¹ For example: Maternal and New Born Care in departmental maternity institutes and hospitals.

¹ IMBORCA. Gestión de calidad y aseguramiento de la calidad. Vocabulario. La Paz: IMBORCA; 1995 (Norma Boliviana NB-ISO 8402).

Program: Organized inclusion of services; activities; techniques; instruments and projects addressed to achieve defined objectives. For example: Integrate Women's Health Care Program.

Component: Specific care area describing the structure of program services. For example: Pregnant Women Care.

Activity: An action or a whole of actions chronologically carried out in order to achieve a measurable and definable health objective. For example: Prenatal Care Visits.

Task: An action or a whole of individual actions focused on the achievement of a common purpose which consequently becomes an activity. For example: Blood pressure measurement.

Quality: "A whole of characteristics of an entity which provides the ability to satisfy established and implied needs".²

Entity: "That can be individually described and considered; it can also be an activity or a product".³

Safety: "Conditions in which the risk of personal or material damage is limited to an acceptable level".⁴

Quality Care: A relationship between the media or available resources; their pertinent use and the results translated into many possible improvements related to health and solidary care. The following are basic components of quality care: privacy; confidentiality; individual care; respect to cultural aspects; confidence; and problem solving.

Integrate attention: A whole of promotion, prevention, and health recovery activities provided at once or in a sequential manner and regularly at health facilities participating in a net of services and within the family and community.

² Idem

³ Idem

⁴ Idem

Integrate health consultation: Regular, individual and systematic observation by doctors, nurses and/or nurse auxiliaries of women and children based on the accomplishment of tasks already established as part of a consultation with the purpose of promoting, preventing and/or recovering women's reproductive health and child's growing and development.

Reproductive health: "Overall physical, psychological and social well being -- and not just the absence of diseases -- in all aspects related to the reproductive system and its functions and processes. Consequently, Reproductive Health involves the capacity to enjoy a satisfactory sexual life with no procreation risks and with the freedom to decide whether to procreate or not, and when and how often ".⁵

"The previous condition leads to the (exercise of the) right that men and women have to obtain information and to family planning, as well as to choose other methods to regulate fertility which are not legally prohibited; and to have access to safe, efficient, acceptable and accessible methods; the right to receive adequate health care services, this will allow safe pregnancies and deliveries and will provide couples the best possibilities to have healthy children".⁶

Reproductive health care: "A whole of techniques, methods and services that contribute to reproductive health and the well-being, they avoid and solve problems related to Reproductive Health, including sexual health, whose objective is the development of life and personal relationship and not only to manage advisory and care regarding reproduction and sexually transmitted diseases".⁷

Growth and development: A continuous, dynamic and unique process for each child which starts at the conception. It implies changes related to the child's structure (growth) and psychosocial functions (development).

Breastfeeding: Children who receive maternal breast milk directly of by expression. Breastfeeding is exclusive when the child does not receive other fluids or food, except for vitamins or medicines.

Room Sharing: When mother and child are in the same room while they remain at the hospital. It can start immediately after the delivery or few hours later.

⁵ Definition approved at El Cairo International Conference, 1994.

⁶ El Cairo International Conference, 1994.

⁷ Idem.

Contraception: "A whole of methods or options which allows couples to exercise their reproductive rights and regulate their fertility as they choose".⁸

Family Planning: The right that couples have to freely decide based on information the number of children they will have and when to conceive.

Responsible parenthood: An informed, conscious and free option taken by couples in order to determine family size. The option should take into account not just their mutual duties, but also their duties towards their children and the society.

Natural family planning: The right that couples have to decide freely based on information the number of children they will have and when to conceive using methods based on signs related to women's physiology.

Reproductive risk: The possibility that a woman suffers any damage in case she gets pregnant under unfavorable health conditions. The risk is detected in non-pregnant women.

Obstetrical risk: The possibility that a pregnant woman and her child suffer any damage due to risk factors. It can be personal, environmental or social.

Child risk: The possibility that a child gets sick, dies or remains disabled due to the presence of health threatening factors.

Concept of gender: "The net of characteristics of personality; attitudes; feelings; values; behaviors; and activities that, through a social building process, create differences between men and women".⁹ It is also the whole of symbolic, social, economical, legal, political and cultural attributes assigned to individuals according to their sex. Individuals are not born with gender, but they develop it from a social, political and historical learning.¹⁰

Health gender focus : Relations between biology and social environment applied to the health woman analysis and the disadvantages that women have in the economic, social and basic resources in health protection and promotion compared to men. In the application, it implies to satisfy the health needs and expectations of women, according to their own characteristics.

⁸ Médicos Consultores. La Paz, 1993.

⁹ Panamerican Health Organization. Gender, women and health in the Americas. Washington DC: PAHO/WHO; 1993.

¹⁰ CIDEM. La Paz, 1995.

Birth control user: Person that selects a birth control method informed, freely and willingly.

New birth control user: Person that for the first time in its life uses some kind of birth control.

Continuous birth control user: User that comes back for the first time in the period or the following year to the reception of the birth control service.

Reconsultation user: New and continuous users who return for check-ups and/or method supply within a calendar year.

Informed consent: The voluntary decision of a patient to have a surgical or medical method with actual knowledge and understanding of pertinent information under no pressure.

GENERAL REGULATIONS

Regulation 1

Assistance responsibilities. All health staff (doctors, nurses and nurse auxiliaries) have the obligation to provide clinical attention to women and children, according to their capacity and functions, activities and tasks assigned to them by the norm. The responsibility will be taken and shared even in services where there is a doctor and a nurse and/or a nurse auxiliary.

Regulation 2

Care continuity. In health centers and basic supportive hospitals nurses and nurse auxiliaries will provide care and/or will refer patients in case there are no doctors, according to training.

Regulation 3

In-Training-service. The development of further knowledge and skills for nurses and nurse auxiliaries is part of the responsibility of medical staff and they should promote the transfer of certain knowledge and abilities, taken from the norm, for a supervised application.

Regulation 4

Solidarity with patients. All women and children who attend public and private health facilities, both out-patient and in-patient, will be admitted and attended as concrete individuals - under a name and surname -- and not just as a bed or consultation card number.

Regulation 5

Report of family or home violence cases. Health staff have the obligation to report to immediate health authorities cases of family or home violence against women and/or children detected during health care visits. Health authorities will report cases to the corresponding police section.

Regulation 6

Register of births and deaths. Health staff is in charge of providing orientation to families, local leaders and the community about the importance of registering births and notifying deaths of children under 5 and women between 12 and 45 years of age at the Civil Register offices.¹¹

¹¹ Register of births and deaths at Civil Register offices is free of charge, while the delivery of a birth or death certification to family members has a cost.

MAIN REGULATIONS FOR THE PROGRAM OF WOMEN'S HEALTH CARE

The regulations, as part of the norm, reflect the philosophy of the institution related to a relevant health problem. Also the guidelines are express in the protocols, that contain the behaviors and procedures, this is to say "the specific way to perform an activity"

Regulation 1

The following list constitutes the basic and obligatory services offer for women's care within the service network of a local health system.

- Prenatal Control/consultancy
- Puerperium Control/Consultancy
- Gynecological visit
- Delivery care at the hospital and at home
- C-Section
- Care for the gyneco-obstetric emergency, at the visit and hospitalization.
- Immediate care for the newborn
- Promoting rooming together and breast feeding
- Detection of uterine cervical cancer (PAP) and breast cancer
- Contraception
- Tetanus Vaccination during and before/after pregnancy
- Diagnosis and Treatment of sexually transmitted diseases.
- Reference service for women with acute obstetrical or gynecological morbidity
- Counseling/advisory (includes giving away educational material).
- Basic Lab services.

Regulation 2

The following instruments for registration and monitoring, related to the Program of Health Care of Women, are of mandatory use in the local network of health services:

- Basic perinatal clinical history (HCPB)
- Perinatal card (for pregnancy and delivery)
- Partogram with alert curves
- Poster for monitoring perinatal indicators
- Forms 1 and 2 for epidemiological surveillance of perinatal and maternal mortality.
- Clinical history of the non-pregnant woman.
- Card for the non-pregnant women.
- Forms for the cervical-uterine cancer component.
- Monthly report for epidemiological surveillance (SNIS).
- Monthly report for health activities (SNIS)

Regulation 3

All pregnant women that gets in touch with a health service should receive at least four consultations. A clinical history should be open for her and she will receive a card to be used during pregnancy and delivery.

Regulation 4

The four antenatal consultation should be given preferably during the following weeks of pregnancy: the first, sometime during first half of gestation; second consultation, between weeks 22 and 29; third consultation, between weeks 33 and 35; and the fourth prenatal consultation between weeks 37 and 40. The moment of antenatal consultations should be planned with the pregnant woman.

Regulation 5

The following is the National Classification for High Obstetrical Risk:

- Pregnant woman of less than 18 years-old or older than 35.
- Intergestational spacing less than 24 months.
- Pregnant woman with background of perinatal loss (stillbirth or early death of newborn).
- Pregnant woman with a previous C-section.
- Chronic anemia during present pregnancy.
- Genital hemorrhage or elimination of amniotic fluid at any stage of the present pregnancy.
- High blood pressure (previous or pre-eclampsia/eclampsia)
- Heart condition (or any other serious illness)
- Multiparity (5 or more previous deliveries)

Regulation 6

The obstetrical risk should be evaluated in each antenatal consultation as well as during labor, base on the clinical findings or observed complications, applying the perinatal history and the national classification for obstetrical risk.

Regulation 7

The clinical history and the perinatal card for the pregnant women of High Obstetrical Risk will be identified with the initial ARO, in red written at the top right corner of both papers, or with a piece of red yarn.

Regulation 8

All references will be done attaching the perinatal card or the no-gestation whatever corresponds and a form or sheet that will have the following data:

- Patient's identification
- Date and hour of consultation (or hospitalization time)
- Vital signs
- Findings (signs and symptoms)
- Indications and treatment given.
- Diagnosis proposed (including gestational age and fetal vitality)
- Moving conditions.
- Companion.
- Institutional seal, responsible person's name

Regulation 9

It is an obligation of the health services to promote and protect the breastfeeding. In order to comply with this, they should perform their duty according the status of the outpatient or inpatient.

- To elaborate, adapt or adopt a document relative or base in the national policy about breastfeeding. This document should be known for all the staff at the facility, including administrative and support staff.
- The facility direction will organize the training of the staff, so they will be able to put the policy into practice.
- The health personnel will promote amongst pregnant women the benefits of breastfeeding and will advise about the way of putting it into practice.
- In services that have maternity beds, the health personnel will help the mother to initiate breastfeeding within the next half hour following delivery or C-section. The same procedure will apply to home deliveries when health personal or birth attendants are present.
- The health personnel will explain to the mothers the techniques for breastfeeding and will advise working mothers about the way of keeping up with the practice even if they need to be away from their babies.
- The newborns will only receive their mother's milk, except in situations specifically indicated.
- In facilities with maternity beds the mothers and babies will share rooms 24 hours a day, except in situations specifically indicated.
- The health personnel as well as the administrative and support staff will foster and advocate natural breastfeeding every time they need to do it or when ask for advise.

Regulation 10

The activities for cervical cancer screening will be directed to women between 20 and 54 years-old. Women of other age groups will receive this type of care when they ask for a PAP test or when presenting dangers signs (post-coital hemorrhage, cervicitis, suspicious cervix).

Regulation 11

The reading of lab results will be done in accredited laboratories that work with the National Secretariat of Health. Other labs from private institutions or NGOs should prove their competence before health authorities.

Regulation 12

The frequency of the PAP test from a first one negative, is a second one at the next year and if this one is negative the following ones every three years.

Regulation 13

Patients that present dubious results or a positive one will have to go through additional testing. No treatment will be carried out base only on the first lab report.

Regulation 14

The behavior at the health services base in the lab results, should be based on the following:

CYTOLOGY REPORT

- Insufficient sample
- Normal frotis, negative for neoplastic cells
- Inflammatory frotis
- Low dysplasia or NIE I
- Moderate dysplasia or NIE II
- Severe dysplasia/carcinoma in situ (NIE III) and invading carcinoma

BEHAVIOR

- Repeat cytology
- Control after a year, then every three years.
- Treatment of inflammatory cause. Repeat cytology after 6 months.
- Treatment at reference hospital

Regulation 15

Any breast tumor, regardless of its size, should be examined and investigated. Therefore the breast exam for every woman that goes to the facility is mandatory.

Regulation 16

The clinical breast exam needs to be completed at the armpit level, supraclavicular level and hepatic level. The women with suspicion or certainty of the condition should be treated at the reference facilities departmental or regional.

Regulation 17

The schedule for tetanus vaccination for women between 15 to 49 years old, pregnant or non-pregnant is the following:

DOSES NO.	APPLICATION	PROTECTION
1st. doses	At first contact	No protection
2nd. doses	1 month after the 1st.	For 3 years
3rd. doses	6 months after the 2nd.	For 5 years
4th. doses	1 year after the 3rd.	For 10 years
5th. doses	1 year after the 4th.	For life

Regulation 18

The contraceptive methods approved to be offered at the public health facilities and for non-profit purposes are:

- Oral hormonal combined contraceptives
- Injectable hormonal contraceptives of long lasting effect (the ones that contain synthetic progesterone)
- Intrauterine Devices (TCu 380A)
- Barriers Methods and spermicide (condom, ovules, cream, vaginal foam).
- Periodical abstinence methods: natural (basal body temperature, cervical mucus, sintothermic), rhythm and LAM.

Other hormonal methods and the surgical ones for definitive contraception are not formally approved. Their introduction at the departmental, local or institutional level requires a formal request to the national health authorities.

Regulation 19

For women or couples that demand in an spontaneous way a contraceptive method hormonal or IUD, the following applies:

- Make sure that they receive the proper advise that will allow the user or the couple to chose the most adequate contraceptive method.
- They should have a consultation for evaluation to be able to disregard any side effects of the chosen method.
- The necessary controls should be scheduled to evaluate the adequate use of the method and/or timely find out any complications resulting from its use. In case of complications these should be treated timely, including the option for method change.

Regulation 20

In case of pathology in women, the selection of a contraceptive method will be base on the OMS criteria, as follows:

- Type 1: Condition where is no restriction for the use of a contraceptive method: use the method in any circumstance.
- Type 2: Condition where the benefits of using the method generally are greater than the theoretical or potential risk. generally the method could be used.
- Type 3: Condition where the theoretical or potential risk is greater than the benefits of using the method: the use of the method is not recommended, unless there is no any other method available or acceptable.
- Type 4: The condition represents an unacceptable risk to the health when associated to the use of the method: the method should not be used.

MAIN REGULATIONS FOR THE HEALTH PROGRAM FOR CHILDREN YOUNGER THAN 5 YEARS OLD

The norms as a set of concepts, definitions, regulations and protocols, have the purpose to promote a better growing and development of children through integral care. However, due to the fact that the frequency of infectious morbidity is still important as it is the high rate of mortality, the prevention of mortality by dehydration through oral rehydration therapy and the timely diagnosis and treatment of pneumonia should continue in an intensive manner at health services as well as the community. The immunization activities should also continue in the same way.

Regulation 1

The following list of health care are basic to care in a complete way children younger than 5 years-old, and they are the mandatory offer at the services networks of the local health system.

- * immediate care for the newborn
- * rooming together (facilities that offer hospital delivery)
- * complete pediatric care (to control growing and development; for pathology treatment)
- * counseling (advisory), for caring for the baby at home:
 - . breastfeeding promotion
 - . accident prevention
 - . early detection of illnesses
 - . early stimulation
 - . appropriate feeding
 - . vaccination (complete schedule)
 - . hospitalization (dehydration and acute pneumonia; malnutrition and others)
 - . basic lab tests
 - . referral of children with serious conditions.

Regulation 2

The following instruments for registration and monitoring, related to the Program for Complete Care of Children, are of mandatory use in the local network of health services.

1. child's clinical history
2. child's health card
3. morbidity-mortality form for the child younger than 5 years-old, hospital.
4. Epidemiological surveillance monthly report, from the National Subsystem of Health Information.
5. Health activities monthly report, from de National System of Health Information.

Regulation 3

The health services should offer the necessary facilities so the newborn can stay in early contact with the mother, immediately after being born, for 5 or 10 minutes if the circumstances allow this time, and to start with the breastfeeding within the hour of the delivery or C-section. In the deliveries attended at patient's home by health personnel, the breastfeeding should be initiated within half an hour of delivery.

Regulation 4

The growing and development control should be initiated as soon as possible after de birth. The health personnel of all ranks will be in charge of promoting the registration of children younger than 5 years old at the local health services, and also they will be in charge of the opening and offering of the child's health card.

Regulation 5

In maternity wards and health services where children are born, it is mandatory the opening and offering of the child's health card.

Regulation 6

The children younger than 2 years old that come in touch with a health service, should receive at least 6 health controls during a year. The children between 2 and 5 years old, should receive at least four annual health controls. For newborns two of the health controls for their first year of life should be performed within a month and a half.

NEWBORN 1 MONTH TO 2 YEARS - 2 TO 5 YEARS OLD

Two controls within the first month and a half of life (every 15 days.)

For pre term newborns and/or with low birth weight: offer a control once a week during the first month of life. Six health controls during a year (1 control every 2 months).

If he child has not gain any weight between health controls or if he/she has lost weight, check him up every 15 days until weight gain starts (See Regulation 10). Four health controls in a year (1 health control every 3 months).

If the child has not gained weight between two controls or if he/she has lost weight check him up every 15 days until weight gain starts.

Regulation 7

The health personnel will be in charge of promoting exclusive breastfeeding up to 6 months, age at which the child should start with additional foods. The mother will receive counseling so she

can prolong breast feeding up until the baby is 24 months old, and also she will be advise NOT to discontinue breastfeeding in case the child gets sick.

Regulation 8

The child's health card should be used for health personnel as an educational instrument for the family, starting with some important information that is registered on the card: birth weight; dates and vaccination doses, time period the child was breast feed, when the complementary feeding started, illnesses, and mainly growth trend.

Regulation 9

From the second control on the curve for weight gain should be draw in the card. If it is an upward curve, the card will be identified with green yarn; if the curve gets flat, the card will show a yellow yarns, and if the curve goes downwards the card will show a red yarn.

Regulation 10

A child that does not recovers his/her growing rhythm during two consecutive controls, should be put under observation to define a diagnosis a to start with specific treatment.

Regulation 11

The following factors are of High Risk for Children:

- * Low birth weight
- * Asphyxia or other pathology at birth
- * Children with recurrent episodes of diarrhea and/or acute respiratory infection.
- * Maternal death
- * Lack of breastfeeding or breastfeeding period of less than six month.
- * Big family (more than 5 members)
- * Orphan or absence of one or both parents
- * Unwanted child or mistreated child
- * Parents that ar alcoholic, illiterate, sick; adolescent mother.
- * Child with a downward curve of growing.

Regulation 12

The health personnel will be in charge of promoting the complete vaccination doses at the level of family and community, following the schedule describe below, according to age, vaccine type and doses:

AGE	VACCINE AND DOSES
Newborn	polio(initial) and BCG
2 months old	1st. polio and 1st.DPT
4 months old	2nd. polio and 2nd DPT
6 months old	3rd. polio and 3rd DPT
12 to 23 months old	measles
1 and a half years old	polio and DPT (reinforcement)
Also the second and third doses of polio and DPT could be applied EACH MONTH, in order not to lose opportunities.	

Regulation 13

The vaccines, polio and others applied through injections, don't have contraindications.

Regulation 14

Any child going to visit the doctor for any illness and receiving out patient treatment should receive care in a second visit within 24 to 48 hours following the first visit. If the child is being breast fed, DO NOT advise against mother's milk.

Regulation 15

All reference will be done with a form or sheet including the following data:

- * child's identification
- * age, height, weight
- * information related to the delivery (specially for a newborn)
- * signs and symptoms and its evolution
- * proposed diagnoses and treatment given
- * reference conditions; who is the companion
- * institutional seal; name of responsible person

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INTRODUCTION TO THE INTERPERSONAL COMMUNICATION COMPONENT

This document has two essential components, the clinical component and the interpersonal communication component (IC).

The clinical component specifies the definitions and essential procedures for the adequate management of obstetrical and neonatal complications that the patient may show.

The IC component has as a main objective to support the service provider who is offering care during and obstetrical, neonatal emergency with simple, clear, brief and precise information to be offer to the patient and her relatives AT THE SAME TIME that care is being offered, using the techniques, abilities and skills of the IC.

Therefore, the IC protocols presented in this document, do not have a formal format of presentation for each complication. For this reason, they do not consider definitions, descriptions or give more explanation about the subjects. The IC protocols try to offer the health professional the necessary material to talk to the patients and their families about the problem they are going through with respect, kindness and good attitude. It is assume that since we are talking about neonatal and obstetric emergencies, there is no time to educate or offer counseling.

The IC component in these protocols informs the patients and their families about the problem they are facing, what will happen if the problem is not treated immediately, and what needs to be done in order to solve the problem.

The IC component of this document assumes that the health professional -taking into account the procedures indicated in the clinical component- will explain the patient and her family the procedures to be performed (for instance; he/she will explain that a pelvic exam will be done, or a lab test, then he/she will explain what has been found and what needs to be done to solve the emergency). The IC component does not contain this information, since it is explained in the clinical part.

The IC component within these protocols gives guidelines that the health providers should communicate to the patient or her newborn suffer a complication.

The explanations are directed to the patients, however the health personnel should take into account the patient's family and their customs and traditions in each region in order to explain these problems.

Based on what has been said before, there are three essential questions that arise that the provider should answer for every situation. These questions have been written as if the patient or her family have asked them, and the answers are given from the point of view of the provider. These are:

1. Explaining the problem: What problem do I have?
2. Consequences of the problem if it is not treated: What might happen to me and my baby?
3. Treatment/Procedure: What are they going to do to me or give me?

It can also be observed that the answers to question No. 3 (What are they going to do to me or what are they going to give me?) are divided by level of care. Therefore, if the health personnel works at the LEVEL I (post and health center) they should use exclusively this part of the protocol. If the health personnel works at the LEVEL II (district hospital) they should use the corresponding protocol. For this level of care the protocol starting at level I is used.

It is expected that the IC component becomes an innovative work going further than simply indicating to the health provider what to do, for instance: "Now explain to the patient what she has". This protocols try to help the provider by having the immediate information that is also clear and accurate and in this way be able to offer the best care possible.

(Nota: 1. Use the information for puerperal sepsis for the following complications: gyneco-obstetrical infections; general infections/adnexitis; parametritis; obstetrical peritonitis; obstetrical pelviperitonitis. 2. Use the information for deficient neonatal respiration for the following complications: syndrome of respiratory difficulty, apnea, meconium aspiration syndrome, tachypnea, perinatal pneumonia).

Eleven relevant point to be remembered when we offer services of high quality care during obstetrical and neonatal emergencies, taking into account the interpersonal communication and counseling

1. When do we use the information component of this Protocol?

- When the user has an obstetrical complication or her newborn has a neonatal emergency and they are being hospitalized, they should be informed answering to three questions:

What is the problem?

What will happen if it is not treated?

What will be the treatment to be follow?

- When the user and her family want to understand the problem.
- When the user and her family ask for support and help.

2. How does the health providers responds being sensitive of the obstetrical and neonatal complications affecting the user and her family?

- Helping the user and her family to understand, improve and/or solve the problem.
- Establishing a relationship based on respect and trust.
- Giving information about the complication in a consistent and objective manner.
- Understanding the feelings and worries of the user and her family.
- Understanding the user and her family from a cultural point of view.

A sensitive health provider is a mature person, compromise to help the users and her family and with the ability to efficiently face the difficulties and situations that arise from these complications. He/she is also a person that successfully completed a course of training on the subject and in interpersonal communication and counseling.

3. Which are the 12 ESSENTIAL CHARACTERISTICS AND QUALITIES of a health provider?

For the health provider to be successful when offering her/his services, he/she should have the following 12 essential characteristics and qualities

12 ESSENTIAL CHARACTERISTICS AND QUALITIES OF A HEALTH PROVIDERS

- Respectful
- Discreet
- Responsible
- Honest
- Understanding
- Self assured
- Sociable
- Efficient
- Flexible
- Active
- With Knowledge
- With Technical Ability

4. How we offer support to the users and her families during difficult times?

An effective health provider needs to have:

- A through knowledge and understanding of the management of obstetrical and neonatal complications and about interpersonal communication and counseling.
- A positive attitude.
- Good interpersonal communication skills
- The ability to apply all what has been mentioned before in different situations.
- Knowledge and respect for the culture and customs of the population he/she tends to.

These qualities develop with practice, experience, study and training.

5. Where we should offer the information about obstetrical and neonatal complications to users and her families.

This can be done at any place that complies with the following 5 guidelines:

- Private
- Comfortable
- Quiet
- Where nobody else can hear what is being said
- Where there is no interruptions

6. Which are the 4 POSITIVE ATTITUDES that all health providers must have?

All health providers should at least 4 the following positive attitudes:

4 POSITIVE ATTITUDES	DEFINITION
EMPATHY	We try to truly understand they way the user and her family are feeling. We try to imagine how it will be to be in the same situation as the patient. We try to be in her place.
ACCEPTANCE	We accept the person as she is, with her own culture and customs, without trying to change her or reproach her for what she is. A sensitive health provider does not judge or criticize the user or her family. He/she always shows respect.
CONFIDENTIALITY	We do not reveal anything that the user or her family said to people that don't have anything to do with the situation.
PAYING ATTENTION	We show that we are listening and paying attention with our body and with language, we greet, we smile kindly. We show interest, presence, honesty, respect, trust and that we want to help. We are "ROKIS"

R elax
 O pen
 K eeping eye contact
 I nclined to the user
 S ituated within the cultural space accepted
 by the user

7. WAYS OF COMMUNICATION: VERBAL AND NON VERBAL

THERE ARE 2 WAYS OF COMMUNICATION	DEFINITION
- VERBAL COMMUNICATION	Is the exchange of information where ideas or feelings are presented through talking.
- NON-VERBAL COMMUNICATION	Is the exchange of information FACE TO FACE where ideas or feelings are presented through postures, gestures that can not be heard.

8. Which are the 6 INTERPERSONAL COMMUNICATION ABILITIES AND SKILLS that every health provider should have and use constantly during each consultation?

In order to offer high quality services the health providers should use at least the following 6 interpersonal communications abilities and skills (IC); and to help the patients and her families to express their problems and find the most appropriate solutions.

6 ABILITIES AND SKILLS OF INTERPERSONAL COMMUNICATION	DEFINITION
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LISTEN ACTIVELY	Communication works both ways. Listening is the half of talking. Therefore, LISTENING ACTIVELY is as important as to know how to talk.
USE SILENCE ADEQUATELY	Sometimes the user or her family stop talking, maybe they are thinking about their situation, don't hurry them. Also is important not to interrupt when someone is talking.
CLARIFY	To clarify a QUESTION after the user has explain her situation, in order to verify that what we heard is really what the user meant. It has two parts: the question and the repeated message in the own words of the health provider.
PARAPHRASE	Paraphrasing is similar to clarifying. Paraphrasing is define as repeating the description of a situation, event or an idea in the own words of the health provider.
REFLECT	In contrast with the techniques of paraphrasing or clarifying, that refer to the CONTENT of a message that the user gives, the reflection technique repeats the user's message taking into account and describing the FEELINGS of the user regarding the content. It shows the user that we are really interested in her situation.
SUMMARY	After the user has talked, we can observed the themes. The themes indicate what the user wants to say and where she want to focus the conversation. The health provider can respond to the user summarizing all he has heard. The summary is a recollection of two or more paraphrases and reflections that condense the user's message and it is useful to verify that the information that we heard is correct.
OPEN ENDED QUESTION PROBE	Invite the user to explore, talk and explain in depth her problem.

9. During clinic consultation, what other 6 ESSENTIAL ASPECTS of Interpersonal Communication should be present?

6 ESSENTIAL ASPECTS OF INTERPERSONAL COMMUNICATION DURING MEDICAL VISIT	DEFINITION
ANSWERING QUESTIONS	The health provider should answer to every question with clarity, truthfulness, sensitivity, kindness, and in a very simple way.
EXPLAIN THE PATIENT ABOUT THE PHYSICAL EXAM	The provider should always tell the patient about the physical exam, being it a general exam, a breast exam, or a gynecological exam. The provider should tell the patient what is being done, how she will feel, ask her how she feels and let her know about the findings.
CORRECT MISTAKEN MESSAGES	The health provider asks the patient to repeat what the provider just said. In this way the provider verifies if the information given has been registered correctly by the patient. If this is not the case he corrects the information.
PRAISE THE USER	The patient is praised when she repeats correctly the information. She is also praised for going to consultation at the health service.
FIND OUT ABOUT DIFFICULTIES	The health provider asks the patient about problems she may face to follow recommendations.
TAKE INTO CONSIDERATION THE USER'S CULTURE	The language use is related to the patient's culture. If possible the provider talks in her native language.

GENERAL EXAMPLE FOLLOWING THE TECHNIQUES MENTIONED BEFORE

USER; (A 35 year old woman, mother of 2 children) says: My life fell apart when my husband die. I feel so insecure that I thought I would not be able to provide for my children by myself. My husbands took all the decisions around the house. I haven't been

able to sleep for a long time, and I have started to drink frequently. I have gained 10 kilos. I look awful. How could I find a job if I look so messed up.

HEALTH PROVIDER: Pay attention, consider the non-verbal communication, use silence adequately, this means, not to hurry up or interrupt the user while she talks about her situation, make open ended questions an probe, take into account the user's culture and:

- Clarify: "Are you saying that one of the hardest things you are facing right now, is not having enough confidence to take decisions by yourself?"
- Paraphrase: "Since your husband die you have all the responsibilities over your shoulders and also you have to take decisions by yourself"
- Reflects: "It seems that you are overwhelmed by all the responsibilities that come with being in charge of a family"
- Summarizes: "Now that your husband has died, you are facing many difficult situations...the responsibilities, the decision making taking care of your children, of yourself. This seems to worry and overwhelm you."

10. What method of PROBLEM RESOLUTION can the health provider use?

There are many methods of problem resolution, however, that the following is the most appropriate for the health provider since it is complete and easy. It has four basic steps.

4 STEPS TO SOLVE PROBLEMS	DEFINITION
LISTENS AND RESPONDS	<p>Help the patient and her family to talk about the situation and the problems; use positive attitudes; the active listening techniques and the interpersonal communication abilities.</p> <p>Do the physical exam based on the information she offers, tell her what you are doing and why.</p> <p>Identify patient's problems based on the information obtained through previous steps.</p> <p>Decide what should be done to solve the problem and let the patient and her family know: what should be done, how and why.</p>

11. What type of communication should be avoided?

Communication styles that should be avoided when a health service is offered.

- Give orders, demand
- Avoid, reject, deny, put off
- Threaten
- Judge, criticize, insult, blame
- Joke, make fun, be indifferent, sarcastic
- Give advice
- Attack
- Take pity
- Patronize

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Note: This theme of IC/C is based in curriculums developed with the technical assistance of PATH and the Johns Hopkins University in many countries such as : Egypt, Nigeria, China among others. It is also base on the MotherCare Interpersonal Communication and Counseling Curriculum for Midwives, Nigeria.

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PREGNANCY PROCOLOS

ANTENATAL CONTROL

Definition

It is the periodic and systematic visit of a pregnant woman to a Center supervised by a health team to: Watch out the evolution process of the gestation; to prevent risk factors; detect and treat the complications in a properly and suitable manner ; refer the person to the most complex level, when it corresponds; give educational contents (counseling); and get her to delivery in the best health conditions for the mother and child.

TASKS

1.

OPENING OF PERINATAL REGISTRATION CARD AND ELABORATION AND UPDATING OF THE PERINATAL CLINICAL HISTORY

Objectives

- Have only one document that the pregnant woman carries with her, with all the detailed necessary information, presented in a very simple way.
- It allows to identify the patient risk, plan the control according to it, register pregnancy evolution, delivery, puerperium and newborn's background.
- It is the information channel when the patient is referred and counter-referred.

Actions

- Fill out the Perinatal Card (Perinatal Clinical History) with all the personal data required in it, following all the instructions carefully.
- The information that remains in the yellow squares of the form Perinatal Clinical History, means that there is a risky situation and alerts the health team to plan the control of the patient in the most suitable manner for her risk in order to prevent complications.
- This information should remain in the form "Clinical Perinatal History" in the facility where the pregnant woman is getting care.

- Complete all the corresponding information in each control, in the Perinatal Clinical History, included in the registration card, as well as in the form that remains in the facility.

2.

MEASUREMENT OF MATERNAL WEIGHT AND HEIGHT

Objective

- Assess the nutrition status of the pregnant woman and her weight gain.

Considerations

- It is expected that during the course of the pregnancy the weight curve rises and within determined values between 25 and 90 percent in the graphic.
- Exaggerated weight gain predisposes fetal macrosomia.
- Maternal exaggerated weight gain could be attributed to twin pregnancy, polyhydramnios, or it can be an alert sign of induced hypertension by the pregnancy (HIE).
- Low weight gain is associated to the delay of the intrauterine growth (RCIU), or other illnesses of the mother (for example: malaria, parasitosis, bocio, tuberculoses) that should be treated as early as possible.
- Pregnant women with inadequate gain weight should get nutritional advice, supplementary food and corresponding treatment for other illnesses.

ACTIONS

- Make sure a private environment is available for the pregnant women during measurement and weight procedures
- Explain the procedure you are going to perform and its use at pregnancy control.
- Height will be measured in the first control just once.
- Have the pregnant woman weight in each prenatal control, preferably with light clothes on or the same quantity of clothes each time.

- If the woman knew his normal weight before becoming pregnant, control the increase in the curves drew in the Perinatal Card (Perinatal Clinical History), the following way:
 - . Subtract from the actual weight, the weight before pregnancy (the result is the weight gain).
 - . Write down the obtained value in the graphic, in the intersection point or cut with the gestational actual age.
- If you do not know her actual weight, use the Jellife Chart (annex 1) and estimate her weight before pregnancy according to her height. After that proceed the same way as in the previous point.
- Inform her about the findings of gain, low, or exaggerated weight gain.
- Give her orientation about the importance of weight and nutrition.
- Register all the information obtained in the Perinatal Card (Perinatal Clinical History).

3.

DETERMINING BLOOD PRESSURE

Objective

- Look for previous hypertension induced by pregnancy, evaluate risk level and initiate the necessary steps (see protocol on induced Hypertension by pregnancy).

Considerations

- To obtain a good diagnosis it is necessary to know early the value of blood pressure during pregnancy (hopefully before 20 weeks of gestation), and take blood pressure using the right technique.

Actions

- Take the blood pressure in each control according to technique.
- Inform the pregnant woman about the obtained values, if the values are dangerous, what she will have to do.

- Register all the values found in the Perinatal Card (Clinical Perinatal History).

4.

GENERAL CLINICAL EXAM

Objectives

- Assess general condition of pregnant woman and its adaptation to gestation.
- Prevent and look for alterations that can affect the mother and fetus.

Actions

- Perform general clinical exam in each control according to technique.
- Register in the Perinatal Card (Perinatal Clinical History) if you found any alert signs and the steps or treatment indicated.
- Explain the pregnant woman the results of the test. If there are risks, encourage her to follow the instructions given to her.

5.

BREAST EXAM

Objectives

- Recognize nodules, asymmetry, retractions, umbilication of the nipples or any other alteration.

Considerations

- The changes in volume, consistency, and shape, pigmentation increase, appearance of a red vein and foremilk secretion are normal during pregnancy.

Actions

- Inform the patient about this test and explain its use in the pregnancy control.

- Perform the breast exam in the first control according to technique and in the following controls, only if necessary
- If the nipples are umbilicated or flat, indicate nipple preparation exercises for a successful breastfeeding. Reinforce the benefits of breastfeeding for her and the baby.
- Refer her to an specialist in mastology or oncology if you find any abnormality.
- Inform the patient the result of the exam.
- Observe and comment with the mother about the changes produced in her breasts, preparing her for breastfeeding. Give her the chance to ask about any doubts she might have
- Register the exam result in the Perinatal Card (Perinatal Clinical History).

6.

DENTAL EXAMINATION

Objective

- Identify the possible existence of septic dental focus

Actions

- Give educational material to prevent the appearance of septic dental focus. Explain the risks during pregnancy.
- Ask the mother in each control about the existence of symptomatology of septic dental focus (decay).
- Refer her for treatment if positive (pregnancy is not a contraindication for dental treatment). In case of exodontics recommend the use of lidocaine without epinephrine.

7.

**DETERMINING GESTATIONAL
AGE****Objective**

- State with the most accuracy as possible gestation age in amenorrhea weeks.

Considerations

- Knowledge of gestational age is fundamental for a good pregnancy control and the complications management. It should be done with the most accurate precision.
- Gestational age or weeks of amenorrhea allow us to evaluate the maternal weight gain, fetal growth, and the probable date of delivery, this way assuring the birth of a newborn on term with the adequate weight.
- The first estimation of gestational age should be done as early as possible (20 weeks would be ideal). Allowing a better supervision of fetal growth.
- If there is difficulty in defining gestational age, the patient should be referred as soon as possible to the care level that have the necessary elements to determine it (ultrasound, espeluscopia, amniocentesis, etc.).
- Gestational age should be calculated in all controls.

Actions

- Estimate gestational age from the first day of the last menstruation regular or normal (FUM) to the date of the check up.
- Find out if she went through the following situations that make difficult estimating the date of the last menstruation (FUM):
 - . If she was taking birth control pills or injections before getting pregnant.
 - . If she was breastfeeding when she got pregnant.

- . If she got pregnant before her regular menstruation started again after the previous pregnancy.
- Estimate the probable delivery date (PDD) adding 10 days and subtracting 3 months to the date of the last normal menstruation (FUM).
- Gestational age and the probable delivery date (PDD) can also be estimated with a gestogram (annex 2):
 - . Find the red arrow in the first day of the FUM.
 - . The 40th week will show the PDD.
 - . The date of the day in which you are doing the estimation will show the gestational age.
- Refer the woman if you can not state gestational age.
- Register the obtained information in the Perinatal Card (Perinatal Clinical History)
- Inform the patient and encourage her to comply with the reference if there are any doubts.

8.

DIAGNOSTIC OF FETAL VITALITY

Objective

- Determine fetal vitality through fetal movements and cardiac frequency.

Actions

- Explain the pregnant woman what you are going to do and share with her findings of the test.
- Ask the mother in each control, about the perception of fetal movements:
 - . The primipara perceives fetal movements between 18 to 20 weeks
 - . The multipara some time before.

. The average of fetal movements perceived by the mother is of 30 an hour, with activity periods (40 movements average) and resting (20) with great individual changes due to maternal sensibility, physical activity, gestational age, sleep, fasting, etc.

- Palpate maternal abdomen to identify fetal movements in each control.
- Explain the mother that she can check the condition of her fetus and teach her how to do it.
- Warn her that she should come to control if she observes diminishing or disappearance of fetal movements.
- Osculate cardiac fetal activity in each control with an obstetric stethoscope, according to technique.

Considerations

- If the mother has not perceived fetal movements and the cardiac fetal beatings are not heard when taking four series of 15 minutes in two hours, refer her for assessment and treatment of fetal decease.
- Make sure about you diagnosis before informing the patient and relatives.

9.

ASSESSMENT OF FETAL GROWTH

Objective

- Watch fetal growth and detect alterations timely specially in women with risk factors (see protocol on low newborn weight).

Considerations

- Fetal macrosomia shows a perinatal risk death almost 5 times higher; increase of the frequency of instrumental delivery, acute fetal suffering, neonatal depression and less adaptability to extrauterine life due to hyalin membrane disease, respiratory difficultnesss or hypoglycemia.

- The most common factors associated to fetal macrosomia are:
 - . Maternal diabetes without angiopathy.
 - . Isoimmunization Rh.
 - . Excessive weight gain of the mother during gestation.

Actions

- Determine uterine height in each control, according to technique.
- Assess if the uterine height is under the percentage 10 or above the percentage 90; register this observation and refer the patient for assessment at level of care II.
- Inform the patient and offer her advice about the importance of weight gain, her nutrition, etc., in relation with the findings.
- Register the obtained information in the Perinatal Card (Clinical Perinatal History and uterine curve).

10.

DIAGNOSIS OF THE FETAL PRESENTATION

Objectives

- Identify the fetal part that is connected with the pelvis, capable to develop labor.
- Look for fetal abnormal fetal presentations (specially on the date close to labor).

Consideration

- Normal fetal presentation is when the fetus head is in contact with the maternal pelvis.

Actions

- Explain to the pregnant woman what you are going to do and its use in the pregnancy control.

- Determine fetal presentation and situation, according to technique (Leopold maneuvers), in all controls starting from the 28th week of gestation.
- If there is a diagnosis of abnormal fetal presentation, assess gestational age and multiparity:
 - . If the delivery is close or if there is a risk of premature delivery, assess if the conditions exist (training and resources, specially the neonatal type) to assist in the delivery. Refer to the center with more complexity if necessary, and explain the woman and her family the importance to comply with the referral.
 - . If the pregnancy is preterm and multipara. advise the woman about the possibility of an spontaneous change of presentation and the importance of going to the health facility to control the situation.
- Register the information in the Perinatal Card (Perinatal Clinical History).
- Inform the pregnant woman.

11.

GYNECO-OBSTETRIC EXAM AND

PELVIS EVALUATION

(INTERNAL PELVIMETRY)

Objective

- Establish pelvic viability and the fetopelvic proportion before delivery.

Consideration

- This exam should be perform in the last control or the date closest to delivery. The greater diagnosis use is during labor. Avoid doing it if it is not necessary.

Actions

- Perform this exam according to technique and only in patients that have the requirements that justify them.
- If it is indicated, perform an internal digital pelvimetry according to technique.

- Register the information in the Perinatal Card (Perinatal Clinical History).
- Inform the patient, if there are risks encourage her to comply with the reference.

12.

GENITAL EXAM

Objective

- Look for early gynecology pathology, such as vulvovaginitis STD or/and cervical cancer, with the purpose to treat them timely and avoid complications.

Actions

- Explain well what you are going to perform and its use in the pregnancy control.
- Take a vaginal cervix cytology (Papanicolaou) according to rules and techniques. Avoid doing it if there are symptoms or history of spontaneous abortion or premature delivery.
- Refer the patient to level III if the result of the vaginal cervix cytology is abnormal according to rules.
- Observe the characteristics of vaginal flow; if there is a doubt of a vulvovaginitis, take a sample of vaginal flow, according to technique, for culture and antibiogram.
- Indicate treatment, to her and her partner as soon as possible. if there is not a laboratory available, make your diagnosis based in symptoms (annex 3).

13.

CLASSIFICATION OF THE PREGNANT WOMAN
ACCORDING TO OBSTETRICAL RISK

Objective

- Identify the pregnant women with risk factors to plan its management during pregnancy.

Considerations

- It is considered a high risk obstetrical patient a woman that shows one or more of the following conditions
 - Pregnant woman younger than 18 or older than 35
 - Intergestational spacing less than 24 months
 - Multipara (5 or more previous deliveries)
 - History of perinatal loss (stillbirth or deaths in the first 7 days of life)
 - Pregnant woman with previous cesarean.
 - Chronic anemia in the actual gestation (10 g of hemoglobin or less, skin and mucosa very pale).
 - Genital hemorrhage at any moment of pregnancy (abortion DPPNI, previous placenta, uterine rupture).
 - Arterial hypertension before pregnancy or before week 20th of the actual one.
 - Pre-eclampsia in the actual pregnancy (diastolic blood pressure of 90 mmHg or more)
 - Cardiopathy or another serious illness
 - Pregnant woman illiterate.
 - Actual twin pregnancy.
 - Pregnant woman with uterine fundus height less to the gestational age in the actual pregnancy
 - Maternal malnutrition
 - Gestational diabetes
 - Genitourinary tract infection.
- Besides these attributes it is considered high risk gestation that go with any pathology that reflects on the pregnant woman's health and her child or on the result of the gestation.
- When filling the Perinatal Card (Perinatal Clinical History) high risk appears warned in the yellow boxes.

Actions

- According to the obtained information of the pregnant woman (anamnesis, clinical and laboratory exams, etc.) classify the woman as low or high risk, depending on the National Classification of high or low obstetric risk.
- Register in the Perinatal Card this classification, in a way that looks outstanding (it can be in the front part of the Perinatal Card, with the letters HOR (High Obstetric Risk).
- Make in each control the classification of the pregnant woman as high or low risk, according to pregnancy evolution
- Register appearance of morbidity, the indicated treatment, if she was referred and the indications of the counter-referral.
- Explain the pregnant woman about her risk and plan with her the next controls. It is important to teach her to identify complication signs and what she has to do
- Assess the present management ability of the risk in the care level (training, equipment, medications, etc.) and decide the referral at the most suitable time to assure maternal fetal well-being.
- If pregnancy is of low risk, program at least 4 controls during pregnancy in care level I, hypothetically delivery should be institutional and attended by trained personal.
- If pregnancy is of high risk either by the presence of a risk factor or morbidity, program the controls that are necessary to look for and control eventual maternal and fetal complications, and determine the most suitable time to refer. The delivery should be at a hospital.

14.

COUNSELING

Objective

- Achieve that the pregnant woman, husband and relatives are well informed about everything related to their tasks and participation in the health during pregnancy, delivery and puerperium and the good care of the newborn.

Actions

- If possible plan when you will give them the educational material at the most suitable time.
- During the 1st quarter give them the material related with:
 - Normal signs and symptoms of complication more frequently in this period, explain what you have to do.
 - The importance of pregnancy control perform by trained personnel.
 - Orientation for a better nutrition with available food (appendix 4).
- During the 2nd and 3rd quarter emphasize the following:
 - The importance to follow instructions and treatment.
 - Prepare her for breastfeeding. Reinforcement or teaching technique.
 - Alert or complications signs frequent in this period and specially what they have to do.
 - Prepare her for delivery, instructions as when it begins, when and where to go according to risk and circumstances (access, distance, etc.).
 - Advantages and benefits of maternal breastfeeding during the first 6 months (annex 5)
 - The importance of puerperium control.
 - Intergestational spacing and family planning (annex 5).
 - The importance to control the growing and development of the newborn (annex 5).

15.

**INSTRUCTIONS ABOUT IRON AND
FOLIC ACID**

Objective

- Prevent and treat anemia during pregnancy.

Actions

- As a preventive medicine indicate iron sulphate 200 mg plus 0,25 to 0,50 mg of folic acid daily (1 tablet v.o.), during all pregnancy and during breastfeeding would be ideal, or 2 tablets daily if the pregnant woman has anemia (see protocol of Anemia)
- Inform the patient about the usefulness of iron and collateral effects, as digestive problems (nausea, constipation). Recommend her to take the tablet after meals, and without coffee or tea, because it diminishes absorption.
- Register indicated doses in the Perinatal Card (Perinatal Clinical History)
- Find out if the pregnant woman has difficulty taking them (she forgot, problems, etc.) and encourage her to follow treatment.

16.

INSTRUCTIONS FOR TETANIC TOXOID

Objective

- Diminish the incidence of neonatal and puerperal tetanus

Actions

- Inform the pregnant woman about tetanus risks for her and her child, and about the importance of vaccination to diminish them.
- Indicate Tetanic Toxoid vaccination (TT), according to rules
- Register in the Card once you are sure that they gave it to her.

17.

INSTRUCTIONS AND LABORATORY TESTS ANALYSIS

- Ask for the following tests in the 1st control:
 - Blood group classification and Rh.
 - VDRL (Venereal Diseases Research Laboratory) or RPR (Rapid

Plasmatic Reagin).

- Complete hemogram
- Urine
- Glycemia
- Explain the pregnant woman the use of each test for her prenatal control.
- Indicate treatment, if corresponds as soon as you have the results.
- Write down results and treatment in the Perinatal Card (Perinatal Clinical History).

BLOOD GROUP CLASSIFICATION and Rh

Objectives

- Identify the pregnant woman with Rh negative
- Treatment should go faster in case of acute hemorrhage.

Actions

- If the woman is Rh negative, ask for blood group and Rh factor from the father of the child in gestation.
- If the father of the child is Rh negative continue with normal control.
- If the father is Rh positive ask her about history of previous pregnancies, abortions, stillbirths, jaundice of the newborn and gamma globulin administration ANTI D hyperimmunity (GG to DH) to know the risk of the actual pregnancy.
- If there is a laboratory available ask for the indirect Coombs test.
- If the Coombs test is negative in two repetitions during pregnancy, administer GG to DH to the mother in puerperium in the first 72 hours to prevent the isoimmunization Rh.
- If there is not a laboratory available or the Coombs test is positive, refer the patient to the most complex level for her control.
- Register the result in the Perinatal Card (Perinatal Clinical

History) and the instructions you have given.

VDLR OR RPR

Objective

- Look for and treat timely maternal syphilis and prevent congenital and neonatal syphilis.

Actions

- If the result is negative (non reactive), repeat it in 32 weeks, if possible.
- If the VDRL is positive inform the patient about the risks and indicate treatment (appendix 6).
- Register the result in the Perinatal Card (Perinatal Clinical History and the instructions or treatment you have done.

HEMOGRAM

Objectives

- Identify presence and Anemia level.
- Indicate suitable and proper treatment.

Actions

- Ask for an hemogram or hemoglobin test, according to availability in the first control and in the following ones if there are signs or symptoms that suggest anemia
- If there is anemia, go with management and treatment according to rules (see correspondent Protocol)
- Identify other anemia causes (parasitosis or malaria) and treat it properly.
- Explain well the reasons to prevent anemia with good nutrition and to take the iron sulphate tablets every day.
- Register all the results in the Perinatal Card (Perinatal Clinical History) and the instructions and treatment you have done.

URINE EXAM

Objective

- Identify the presence of:
 - Proteinuria: Hypertension indicator induced by pregnancy (HIE)
 - Glucosuria : Diabetes indicator
 - Bacteriuria : Indicator of Infections in the uterine tract

Actions

- Ask for an urine exam in the first pregnancy control and if there is any doubt of urinary infection, diabetes, or HIE.
- Explain the pregnant woman the importance to drink plenty of liquids during pregnancy, and genital hygiene to prevent urinary infections and its risks for pregnancy.
- Perform immediate morbidity management detected according correspondent Protocol (treatment or referral)

GLYCEMIA

Objective

- Diagnosis diabetes specially in pregnant woman with:
 - Diabetes in first grade relatives.
 - Perinatal deaths without any known cause
 - Hypertension induced by pregnancy (HIE)
 - Polyhydramnios to repetition.
 - Fetal macrosomia.
 - Obesity at the beginning of pregnancy.
 - Excessive weight gain during pregnancy.
 - Age older than 35.

Actions

- Ask for a glycemia without breakfast between the 24th and 31st

weeks of gestation . If there are risk factors determine glycemia in the first contact.

- If the value is altered, repeat the exam to confirm diagnosis and refer her to the most complex level that the specialty has.
- If the second result is normal, continue with the routine control.
- Register the result of the exams and the referral instructions in the Perinatal Card (Perinatal Clinical History).

Resources

- Basic Perinatal Clinical History Form.
- Perinatal Card
- Referral form and counter referral
- Gestogram
- Jellife charts
- Material for vaginal cervix cytology (papanicolaou and vaginal discharge)
- IEC/C material for education and counseling

Medications

- Iron sulphate with folic acid
- Vaccination for tetanic toxoid
- Sterile vaseline

Equipment

- Scale with talimeter
- Tensiometer and sphygmomanometer
- Thermometer
- Stethoscope of Pinard
- Neonatal and obstetric tapes

SUMMARY CHART

TASKS FOR ANTE NATAL CONTROL
ACCORDING TO LEVEL OF CARE AND NUMBER OF CONTROLS PERFORMED

	TASK	1	2	3	4	FOLL	LEVEL OF CARE
1	<u>Open Perinatal Card</u> Elaboration and Updating of Perinatal Clinical History	*	*	*	*	*	ALL
2	Maternal Height and Weight	*	*	*	*	*	ALL
3	Determining blood pressure	*	*	*	*	*	ALL
4	¹ General Clinical Exam	*					ALL
5	Breast Exam 1	*					ALL
6	Dental Exam	*	*	*	*	*	ALL
7	Determine gestational age	*	*	*	*	*	ALL
8	Fetal vitality diagnosis	*	*	*	*	*	ALL
9	Fetal growth assesment	*	*	*	*	*	ALL
10	Fetal presentation diagnosis	*		*	*	*	ALL
11	Gyenco-obst. exam and pelvic evaluat.	*			*		WITH M.D.
12	Genital exam 1 PAP Test	*	*				W/TRAIN STAFF
13	Pregnant woman evaluation according to obstetrical risk	*	*	*	*	*	ALL
14	Counseling	*	*	*	*	*	ALL
15	Iron indication	*	*	*	*	*	ALL
16	Tetanic Toxoid indication	*			*		

¹ Repeat in the following controls if the patient shows any signs or symptoms.

17	Indication and analysis of lab test: - Group classification and Rh - VDRL or RPR - Hemogram - Complete Urine - Glycemia	* * * * *					WITH AVAILABLE LAB
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PREGNANCY COMPLICATIONS

CHRONIC ANEMIA DURING PREGNANCY

Definition

It is the presence of hemoglobine in periferical blood sample in less quantity to what is considered normal. The number for normal level changes according to altittude or the number of meters over sea level (mosl) of the place where the individual lives. Anemia is considered in the following cases:

- At sea level (Santa Cruz), less than 11 g/dl of hemoglobine.
- At 2.700 m.a.s.l. (Cochabamba) less than 12.6 g/dl of hemoglobine.
- At 3.800 m.a.s.l. (La Paz) less than 14 g/dl of hemoglobine.
- At 4.000 m.a.s.l. less than 14 g/dl of hemoglobine.
- At 4.500 mosl less than 15.4 g/dl of hemoglobine.

It is produced by the defficiency of provision, absortion or reposition of ferrum before and during pregnancy (anemia ferropriva).

A higher need of ferrum during pregnancy worsens a pre-existent anemia.

A secondary cause, although less frequent, is the defficiency of folic acid (anemia megoloblastica) and it is associated to ferrum deficit.

Classification

- According to its severity, it is classified into moderate or severe:

	Moderate	Severe
At sea level	8 - 11 g/dl	< 8 g/dl
At 2.700 m.a.s.l.	9,4 - 12,6 g/dl	< 9,4 g/dl
At 3.800 m.a.s.l.	11,0 - 14 g/dl	< 11,0 g/dl
At 4.000 m.a.s.l.	11,4 - 14,4 g/dl	< 11,4 g/dl
At 4.500 m.a.s.l.	12,4 - 15,4 g/dl	< 12,4 g/dl

Source: Jere Haas, 1996

Risk factors

- Unfavorable social conditions.
- Not enough consumption of ferrum and folic acid.
- Parasitism.
- Multiparity with brief birth-spacing (less than 2 years).

Maternal risks

- Tiredness and fatigue during pregnancy.
- Higher hemorrhage risk.
- Higher incidence of urinary infection.
- Hypotensive Shock.
- Higher frequency of puerperal infections.
- Delay in healing.
- Higher incidence of spontaneous abortion and premature delivery.
- Pre-eclampsia.

Fetal risks

- Higher frequency of fetal distress.
- Slow intra-uterine growth/low birth weight.
- Perinatal mortality.

Clinical signs

- Pale skin and membranes (observe the palm of the hands; the tongue; and internal part of lower eyelids).
- Weakness or fatigue (asthenia).
- Headache.
- Dizziness.
- Sweating.
- Tachycardia.
- Unconsciousness (loss of consciousness).
- Functional heart murmur.

Management

- Explain the patient about the risk of anemia during pregnancy and the importance of accomplishing instructions.
- Assure intake of ferrum, specially by pregnant women presenting risk factors (prevent or warn through counselling about risks and management of eventual intestinal discomfort).
- Provide nutritional education. Advise consumption of food containing ferrum.
- When attending a delivery with moderate or severe anemia, the following aspects should be considered:
 - Utilization of strict asepsia and antisepsia in techniques and procedures.
 - Antibiotics if membranes are broken for more than 6 hours (see protocol on broken membranes).
 - Prevent prolonged labor (partogram use).
 - Observe presence of signs of heart dysfunction.

- Prevent postpartum hemorrhage (tears, retained placenta, inertia).
- 10 units IM postpartum oxytoxics.
- Check if the placenta is complete.
- Control hemoglobine after 48 hours postpartum.
- Apply treatment and/or referral according to anemia level.

Treatment

Preventive

- During pregnancy and breastfeeding every woman must take:
 - 200 mg/day ferrous sulphate (one tablet) v.o., half-hour after lunch, ideally with orange, lemon or another citric juice (vitamin C supply).
 - If it is the first time that a pregnant woman attends a control visit and she is in the last quarter of her pregnancy, it is recommended to administer 400 mg/day (2 tablets v.o.).
- If it corresponds, give treatment for:
 - Intestinal parasites.
 - Malaria.
 - Other infections (urinary, TBC, etc.).

Curative during pregnancy

- According to a degree of severity of the anemia (moderate or severe):
 - 400 - 600 mg/day of ferrous sulphate v.o., three to four times daily during 30 days, ideally to be taken with orange, lemon or another citric juice (vitamin C supply).
- Hemoglobine control after treatment:
 - If it has increased 2 gr/dl or it is higher than the figure limit according to the altitude (described in the definition), treatment should continue.
 - If there is no increase or the level is lower than 2 gr, refer to level III for study.

Note.- Each tablet contains 200 mg of ferrous sulphate and 0,25 mg. of folic acid. The consumption of tea and coffee diminish the absorption of ferrous sulphate. In some cases it can cause pirosis (heart burn), nausea, diarrhea and constipation; faeces can have a dark color. Vitamin C enhances ferrum absorption.

HEALTH POST

- During the delivery of a woman presenting moderate or severe anemia, health staff should consider to attend her only if the patient cannot be referred.

Laboratory tests

- Quick test for hemoglobinemia.

Criteria for referral

- If after a 30-day treatment the level of hemoglobine does not increase at least by 2 gr/dl.
- Patients with severe anemia.
- If there are signs or suspicion of heart defficiency, refer immediately.
- If resources are not enough for the described diagnosis and management.
- Moderate or severe anemia if close to delivery or during labor.

HEALTH CENTER AND DISTRICT HOSPITAL

Laboratory tests

- Laboratory tests should ideally be carried out at the initial stage of pregnancy.
- To assure diagnosis:
 - Hemoglobinemia (Hg).
 - Hematocrit (Hcto)

- If possible, practice hemogram to detect microcitic (small) and hipocromic (pale) eritrocites in periferical blood sample.

Criteria of referral

- If there are signs of heart defficiency.
- During pregnancy if hemoglobine control after a 30-day treatment does not increase by 2 gr/dl or more.
- During the delivery if available resources are not enough for described management.

Resources

PROFILAXIS

- 120 tablets of 200 mg. ferrous sulphate.

TERAPEUTIC SCHEME

- 210 tablets of 200 mg. ferrous sulphate (moderate anemia).
- 360 tablets of 200 mg. ferrous sulphate.

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**Information to be provided to the patient about
ANEMIA DURING THE PREGNANCY**

What problem do I have?

Explain the problem:

You have anemia due to the lack of ferrum in your diet which can produce weakness, tiredness, fatigue, frequent sleepiness and headaches, dizziness, sweatiness and throbbing heart. It also can be the cause of your paleness.

What can happen to me and my baby?

Consequences of the problem:

If this problem is not managed, you and your baby can have different complications during and after the pregnancy. For example, you can have urinary infections after the delivery, you can bleed a lot, or healing can be slow and, the most serious problem is that you can lose your baby.

Likewise, if the problem is not timely attended your baby can be born before the expected date, he/she can be small and have respiratory complications before and after birth.

What will they do or give to me?

Treatment/Procedure:

For I and II level

- We will take a blood test in order to find out if you have anemia. This test will be done once again after you complete treatment.
- We will give you ferrous sulphate tablets. These are ferrum tablets which will strengthen you and will avoid anemia.
- For better results, you should take them before breakfast with orange, lemon, grape fruit or lime juice; avoid taking them with tea or coffee.
- If these tablets cause you some intestinal discomfort you can take them half-hour after your meals therefore this will diminish the results.

PREGNANCY INDUCED HYPERTENSION (PRE EMCLAMPSIA)

Definition

It is the presence of hypertension specifically induced by pregnancy, plus proteinuria associated or not to edema after 20 weeks of pregnancy, during labor or during the puerperium.

Its origin is unknown and it gets normal during the puerperal period.

Operational definition

- Any woman whose systolic and diastolic blood pressure increase by 30 or more mmHg; and by 15 or more mmHg respectively compared to basal pressure measured before pregnancy -- even if it does not surpasses the 140/90 mmHg level -- is considered hypertense.
- If basal pressure previous to pregnancy is not known, pregnant women with blood pressure equal or higher than 140/90 mmHg are considered hypertense.

Clasification

a) *Pre-eclampsia*

- **Moderate:**
 - Blood pressure equal or higher than 140/90 mmHg and lower than 160/110 mmHg.
 - Diastolic blood pressure lower than 110 mmHg.
 - Proteinuria (0,5 - 2,9 gr. in 24-hour urine sample).
 - It shows up after the 34th week of pregnancy.
- **Severe:**
 - Blood pressure equal or higher than 160/110 mmHg.
 - Diastolic blood pressure equal or higher than 110 mmHg.
 - Proteinuria (more than 3 Gr. in 24-hour urine sample).
 - It shows up early during pregnancy (before the 34th but after the 20th week).

b) Eclampsia

- Any pre-eclampsia with one or more convulsions.
- In all cases parameters of definition should be considered. Edema is not included since its presence is not permanent; neither is proteinuria since it is not timely detected.

Risk factors

- Age (less than 20 and more than 35 years of age).
- Preferably primiparous.
- Family history of pre-eclampsia or eclampsia.
- Twins.
- Pregnant women with chronic hypertension.
- Diabetes.
- Poverty (anemia/undernourishment).
- Molar pregnancy.

Maternal complications

- Premature rupture of normo-inserted placenta.
- Heart defficiency and acute pulmonary edema.
- Kidney defficiency.
- Liver damage.
- Disseminated intra-vascular coagulation.
- Vascular encephalic accident.
- Death.

Fetal complications

- Prematurity.
- Slow intrauterine growth.

- Fetal death in uterus.
- Neonatal death.

MODERATE PRE-ECLAMPSIA

Clinical signs

Blood pressure equal or higher than 140/90 mmHg, but lower than 160/110 mmHg: increase of systolic pressure by 30 mmHg or more; and 15 mmHg or more of diastolic pressure over basal pressure.

Feet, hands and face edema.

Excessive increase of weight (more than 500 Gr. weekly).

Management

- Provide counseling in recognizing dangerous signs of this morbidity.
- Explain the patient and family members about both maternal and fetal risks and the importance of complying indications, especially those related to rest.
- Normo-sodic diet.
- Rest, preferably on left lateral decubitus.
- Weekly weight control , blood pressure, edema and if possible proteinuria control.
- If blood pressure decreases, remains stable, or if diastolic pressure is lower than 100 mmHg., continue pregnancy to the final stage (with weekly control visits).
- Obstetric exam to evaluate fetal presentation, vital signs and growth and their relation with fetal age through uterine height measurement and fetal weight estimation.

HEALTH POST

Laboratory tests

- Urine strip test (Proteins (+) or more).

Treatment

- Bedrest.

Criteria of referral

- If within 7 days (with 2 weekly visits) or in later visits blood pressure remains high or increases, refer to level care II.
- If the patient cannot rest at home, assess the possibility of referral for hospital admission.

HEALTH CENTER

Laboratory tests

- Urine test (Proteins (+) or more).
- Hemogram or Hematocrit (hemo-concentration).
- If possible, proteinuria (0,5 - 2,9 Gr. in 24-hour urine sample).

Treatment

- If diastolic blood pressure increase above 100 mmHg., start treatment with hypotensives: Metildopa, 500 mg. every 6 h. v.o., and refer to II level for hospital admission.
- Assess hospitalization according to blood pressure evolution, proteinuria and obstetric conditions.
- Assess maintaining treatment with hypotensives in the puerperium, according to blood pressure evolution.

Referral Criteria

- If resources are not available for the described management.

DISTRICT HOSPITAL

Laboratory Test

- Hemogram or Hematocrit (Hemo-concentration)
- Urine test (proteins (+) or plus)
- Proteinuria (0,5 to 2,9 g in urine of 24 hours)

Treatment

- If the diastolic blood pressure rises above 100 mmHg proceed with hypotensors: metildopa 500 mg every six hours v.o.
- Assess hospitalization according to blood pressure evolution, proteinuria and obstetric condition.
- Assess treatment with hypotensors according to blood pressure evolution.

Referral Criteria

- If resources are not available to perform describe management.

ACUTE PRE-ECLAMPSIA

Clinical signs

- Blood pressure equal or more than 160/110 mmHg or or rise of 30 or more mm Hg for the systolic blood pressure and 15 or more for diastolic blood pressure.
- Hyperreflexia.
- Edema in inferior parts, hands and face.
- Signs of imminent eclampsia:
 - Cephalgia (headache).
 - Auditory problems (buzzing).
 - Visual problems (visualization of shiny or blurred points).
 - Epigastric pain (stomach level).

Management

- This patient requires urgent hospitalization for a serious risk of an eclampsia seizure.
- Explain the patient and her relatives the risks for her and her child and the necessity to refer her to care levels II or III.
- All the procedures should be done softly, avoiding stimulate her and produce convulsions because she is very irritable and sensitive.
- Complete bedrest preferably left lateral decubitus.
- Blood pressure control preferably lay down on the left

side, every hour.

- Fetal cardiac beatings every 4 hours
- Hiperproteic and normosodic diet, zero diet, according to what the patient could tolerate.
- If you have to refer, make sure the referral for hospitalization is in the following conditions.
 - Woman accompanied by someone
 - Lay down, preferably in left lateral decubitus, avoiding to the least the stimulus (noise, light, brusque procedures).
 - Ideally, the person going with her should be trained and prepared to take care of her during a probable eclampsia seizure.

Prediction

- Even if the clinical signs, symptoms and laboratory in the patient with preeclampsia get normal in the first 10 days post-partum. The patient has a low probability of recurrence in later pregnancies or chronic blood hypertension in the future.

HEALTH POST

Laboratory tests

- Strip urine test (Protein (++) or more).

Treatment

- Administer Diazepam 5 mg v.o. or 10 ml i.m.
- Stabilize the patient; calm her down, blood pressure control and general physical condition, while referral begins.
- Refer her in the described conditions.

Referral criteria

- Any patient with severe hypertension should be referred to emergency level II or III, for the risks of convulsions and death for her and her son. *This complication is one of the main causes of maternal and neonatal mortality.*

HEALTH CENTER

Laboratory tests

- Urine test strip (proteinuria(++)) or more).
- Hemogram or hematocrit (hemo-concentration).
- If possible, proteinuria (more than 3 g in urine of 24 h).

Treatment

- Diazepam 5 mg v.o. or 10 ml i.m.
- Metildopa 500 mlg v.o every 6 hours.
- Stabilize the patient; calm her down and, if possible rest for her, blood pressure control, general physical condition while refering her.
- Refer her in the described conditions.

Referral criteria

- Any patient with severe hypertension should be referred urgently to level II or III, for the convulsions risk and death for her and her son. *This complication is one of the main causes of maternal and neonatal mortality.*

DISTRICT HOSPITAL

Laboratory tests

- Urine strip test (Proteins (++) or more).
- Hemogram or Hematocrit (hemo-concentration).
- Urine test (proteins + or more, oliguria).
- Only if possible: Proteinuria (3 Gr. or more in in 24-hour urine sample).

Management

- Hospital admission (darken, quiet room) until delivery is solved.
- Complete bedrest, preferably on left lateral decubitus position.

- Hyperproteinic normosodic diet, according to what the patient could tolerate.
- Control consumption of liquids.
- Daily weight control on light clothes.
- Quantify daily diuresis. Apply Folley catheter for severe diagnosis. Hourly diuresis if oliguria suspicion (< than 25 ml/hour).
- Vital signs control; measure blood pressure every hour having the patient laying preferably on left side (if so, put handle on left arm, preferably every hour).
- Control maternal reflex and fetal heart beats every 4 hours.
- Control uterine activity every 4 hours.
- Daily amnioscopy.

During puerperium

- Observe the patient after delivery with the same care and frequency (25% of eclampsias occur during postpartum).
- Continue sedation and anti-hypertensives during the puerperium.
- When discharging the patient, indicate a control visit within one week in order to control chronic blood pressure in other initial stages, if necessary.

Anti-Convulsive Treatment

- Administer magnesia sulphate, 4 g. IV slow (15 minutes) as initial dose.
- If hyper-reflexion or premonitory convulsive symptoms and signs appear, continue administering dextrose at 5%, 1.000 cc. plus magnesia sulphate (10 g.), 1g/hour (32 drops per minute) as maintenance dose.
- Evaluate hourly osteo-tendinous reflex.
- In case depression of motor plate is confirmed (noticeable diminishing of osteo-tendinous reflex, 12 or less breathing frequency), administer 1 g. IV calcium gluconate as antidote.
- Continue administering magnesia sulphate until 24 hours after the delivery.

- While using magnesia sulphate it is necessary to keep presence of reflexes, diuresis higher than 25 ml per hour and absence of respiratory depression.

Anti-hypertensive treatment

Scheme one:

Attack guidelines

- Administer 10 mg sublingual Niphedipin.
- If diastolic blood pressure increases or remains over 110 mmHg 30 minutes later, repeat the dose (3 doses maximum).
- Do not allow blood pressure decrease under 30 mmHg.

Maintenance guidelines

- After diminishing blood pressure level, administer 20 mg. v.o. Niphedipin every 12 hours (according to patient's response) and/or add 10 mg. sublingual Niphedipin if diastolic blood pressure increases over 100 mmHg.
- Administer 500 cc normal Ringer at 60 drops per minute if diastolic blood pressure drops under 20 mmHg within the first 10 minutes following administration of first dose of niphedipin.
- If diastolic blood pressure is equal or lower than 90 mmHg stop administration of niphedipin since it has no effect under this value.

Scheme two:

- If available: 5 mg. slow IV hydrazaline, monitoring blood pressure every 5 minutes. Evaluate 20 minutes later administering medicine again if there is no response, increasing the dose to 10 mg. and then 15 mg.
- To maintain treatment 40 mg. (two ampoules) of Hydrazaline in 500 ml. of dextrose at 5%; maintenance dose 6 mg. to 12 mg per hour, according to response.
- Once oral via is established: 25 mg to 50 mg. Hydrazaline every 6 hours; it can be associated to 20 mg to 40 mg espanol three times a day in case of tachycardia.

Scheme three:

- Administer 500 mg. Methydolpa v.o. every 6 hours.
- Then adjust dose according to response (do not allow diastolic blood pressure to decrease more than 30 mmHg).

Criteria for interruption of pregnancy

- Moderate pre-eclampsia with mature fetus (fetal age > 37 weeks).
- Severe pre-eclampsia with 34-week fetus.
- Evidence of damage of fetus-placenta unit. If fetal age is less than 34 weeks with immature fetal lung, it is convenient to induce maturation with cortisone (Cidoten, 12 mg/24 hours) interrupting treatment at the second dose.
- If signs of imminent eclampsia (cephalea, visual and/or auditive disorders, epigastric pain) do not disappear within 2 hours, interrupt pregnancy immediately by induction or cesarean section, according to obstetric conditions and independently of fetal age, after stabilizing maternal conditions.

Referral Criteria

- If blood pressure remains or increases.
- If at weekly postpartum control visit (after 10 days postpartum) hypertension is confirmed.
- If resources for adequate treatment are not available.
- Assure referral according to described norms.

Information to be provided to the patient about
MODERATE/SEVERE PRE-ECLAMPSIA

What kind of problem do I have?

Explain the problem:

This problem is due to the pregnancy and it affects you and your baby. This problem is causing the symptoms your are feeling:

- High blood pressure.
- Headache and dizziness.
- Buzzing ears.
- You see bright or fuzzy spots.
- Swelled hands and face.
- Stomachache.

What can happen to me and my baby?
Consequences of the problem:

For you:

If pre-eclampsia is not treated, the following problems can occur:

- Heart disorders.
- Acute pulmonary edema.
- Kidney disorders.
- Fainting.
- Seizures.
- Death.

For the baby:

If pre-eclampsia is not treated, your baby can have the following problems:

- Due to your high blood pressure your baby will have feeding difficulties in the uterus and he/she will grow less than the expected; at birth, he/she will be very small and will be more likely to be sick.
- Due to this problem your baby could be premature.

- If the disease is too severe your baby could die.

What will they do or give to me?

Treatment/Procedure:

NOTE: Health professional should read the paragraph corresponding to the patient's problem.

Moderate pre-eclampsia: The degree of your problem is moderate, therefore you should do the following treatment at home:

For I level

- You should eat normally; especially meat, egg, quinoa, amaranth, lentils with rice, since they contain proteins.
- You should lay preferably on the left side.
- You must necessarily attend a weekly medical control visit and if you feel bad, you should go immediately to the health service.
- We will perform an obstetrical exam in order to find out how your baby is.
- Whenever it is possible, we will take a urine test.
- If you feel better with this treatment, then your pregnancy can continue.

Severe pre-eclampsia: The degree of your problem is very serious for you and your baby, therefore, you will be admitted in the hospital for the following treatment:

For II level (Provide I level information plus the following)

- You should be in complete rest, laying on your left side in a dark and quiet room.
- We will administer medicines to decrease your blood pressure and avoid seizures.
- Your blood pressure will be regularly controlled as well as the frequency and amount of urine and your weight.
- Your baby's heart beats will also be controlled.
- You will be given food with no salt.
- If under this treatment your blood pressure is controlled

or signs of pre-eclampsia disappear, your pregnancy will continue. but if these signs do not disappear within 10 hours maximum, we will interrupt your pregnancy and practice a cesarean section.

- If you have contractions, we will determine if your baby's lungs are mature. If they are not, we will medicate the baby to help them mature so that the baby can later be born.

ECLAMPSIA

Definition

is the final and most serious complication of pre-eclampsia. It is the loss of consciousness followed by general recurrent convulsions lasting 20 to 30 seconds.

Differential diagnosis

- Other diseases that can provoke convulsions include:
 - Epylepsia.
 - Brain hemorrhage.
 - Brain malaria.
 - Meningitis.

Management

- Nothing orally .
- During convulsion:
 - Avoid the patient to fall down and hurt herself. Try to lay her down without forcing her and stay with her during seizure.
 - Introduce a clean cloth in her mouth and press softly and firmly the tongue to avoid biting or airways obstruction.
 - Administer oxygen.
- After convulsions:
 - Keep patient in complete rest, preferably on left side position in a dark place; avoid noise and stimulus (all procedures must be soft).
 - Clean airways; clean mouth and throat, insert a Mayo tube and suck up secretions.
 - Administer oxygen.
- Ask family members of persons accompanying the patient about history of fever, epylepsia, when seizure started, and if she had other seizures.
- Observe for neck rigidity (sign of meningitis).

- Monitor vital signs and blood pressure every 15-30 minutes until reaching stabilization.
- Monitor fetal heart beats every 30 minutes.
- Monitor uterine activity every 30 minutes.
- Observe for signs of cianosis.
- Insert Folley catheter (hourly diuresis).
- If you must refer, make sure the patient follows these conditions during referral:
 - The patient must be accompanied.
 - She must lay down, preferably on left lateral decubitus.
 - Avoid stimulus (light, noise, abrupt procedures).
 - Ideally, the person accompanying the patient should be trained and prepared to attend her during an eventual eclampsia fit.
- When it is possible, explain the patient and family members what happened, tell her about risks and what you need to do.

HEALTH POST AND CENTER

Laboratory tests

- Strip urine test (Proteins (+++) or more).
- If possible:
 - Proteinuria (3g or more in 24-hour urine).
 - Hemogram or hematocrit (hemo-concentration).

Anticonvulsive treatment

- 4 g slow IV magnesia sulphate (in 5 to 10 minutes) or 10 mg IV Diazepam. Then continue with 1.000 cc 5% Dextrose plus 10 g. magnesia sulphate, 1g/hour (32 drops per minute).

Antihypertensive treatment

- 10 ml sublingual Niphedipin.
- If delivery is imminent (expulsive stage and cephalic position):

- Assist demanding the least maternal effort (push) since convulsions could reappear.
- Administer 10 units of oxytocics IM immediately after the baby is born (do not use methilergonovine).
- Refer once both of them are stabilized.

Referral criteria

- A patient who had convulsions must deliver as soon as possible once seizure is under control. Refer once she is stabilized, especially if obstetrical conditions are not favorable.

DISTRICT HOSPITAL

Laboratory tests

- Proteinuria (3g or more in 24-hour urine).
- Only if possible:
 - Uric acid.
 - Ureic nitrogen.
 - Creatinine.

Management

- Hospital admission.
- Monitor fetal heart beats every 30 minutes.
- Monitor uterine activity every 30 minutes.
- Hourly assessment of osteotendinous reflexes.
- Quantify hourly diuresis (Folley tube).
- If treatment fails or if maternal and fetal conditions are deteriorated, interrupt pregnancy through induction or cesarean section if necessary within 24 hours maximum, after stabilizing maternal conditions.
- If the delivery is imminent (expulsive stage and cephalic position):
 - Assist demanding the least maternal effort possible (push). Convulsions could reappear.

Administer 10 units of oixitocics IM immediately after the

baby is born (do not use methylergonovine).

During the puerperium

- Strict postpartum surveillance .
- Continue sedation and antihypertensives during puerperal period.
- According to obstetrical conditions, discharge patient after 5 postpartum days; patient must be fully conscious and you must indicate a control visit within one week after discarding chronic hypertension.

Anticonvulsive treatment

- Insert tube or needle No. 19 in vein.
- Administer 4 g slow (5 to 10 minutes) IV magnesium sulphate; then continue with 1.000 cc Dextrose at 5% plus 10 g magnesium sulphate, 1g/hour (32 drops per minute), during 10 hours.
- In case depression of motor plate (noticeable diminution of osteo tendinous reflex, respiratory frequency 12 per minute or less) is confirmed, administer IV calcium gluconate (one ampule) as antidote.

Antihypertensive treatment

Scheme one:

- If available: 5 mg IV Hydrazaline monitoring blood pressure every 5 minutes.
- Evaluate after 20 minutes and administer medicine again if there is no response, increasing the dose to 10 mg and then to 15 mg.
- As maintenance treatment 40 mg Hydrazaline (two ampules) can be administered in 500 ml dextrose at 5% as maintenance dose from 6 to 12 mg per hour or according to response.
- Once oral intake is normalized: administer 25 to 50 mg Hydrazaline every 6 hours, can be associated to 20 to 40 mg propranolol three times a day in case of tachycardia.

Scheme two:

- Administer 10 mg sublingual Nifedipine.
- If diastolic pressure increases or remains over 110 mmHg

until 30 minutes later; repeat the dose (3 doses maximum).

- Blood pressure must not be lower than 30 mmHg.
- After blood pressure has decreased, administer 20 mg v.o. Niphedipine every 12 hours (according to response) and/or add 10 mg sublingual Niphedipine, if diastolic pressure increases over 100 mmHg.
- Administer 500 cc normal ringer at 60 drops per minute if diastolic pressure drops under 20 mmHg within the first 10 minutes after administering the first dose of Niphedipine.

Referral Criteria

- If resources are not enough for described management, refer at the most convenient opportunity.
- For interconsultation with specialists according to each case.

Resources

- Blood pressure equipment

BOX "A" (PRE-ECLAMPSIA)

1.000 cc Dextrose at 5%	2 bottles
Venocclisis equipment	1 unit
5 UI Oxytocics	2 ampoules
1 gr. Mg. Sulphate	24 ampoules
20 mg Hydrazaline	4 ampoules
50 mg Hydrazaline	10 tablets
10 mg Niphedipine	15 capsules
500 mg Methyldopa	28 tablets
Calcium gluconate	1 ampoule
Vein tube	1 unit

BOX "B" (ECLAMPSIA)

1.000 cc Dextrose at 5%	2 bottles
Venocclisis equipment	1 unit
5 UI Oxytocics	2 ampoules
1 gr. Mg. Sulphate	24 ampoules
20 mg Hydrazaline	8 ampoules
50 mg Hydrazaline	12 tablets
10 mg Niphedipine	15 capsules
500 mg Methyldopa	28 tablets
Calcium gluconate	1 ampoule
Vein tube	1 unit
10 mg Diazepam	2 ampoules
Lasix	2 ampoules
Vesical tube # 14	1 unit

BOX "C" (CESAREAN SECTION)

1.000 cc lactate Ringer	1 bottle
1.000 cc normal Ringer	1 bottle
1.000 cc physiologic sol.	1 bottle
Venocclisis equipment	1 unit
Marcaine 5%	1 bottle
5 UI Oxytocics	2 ampoules
1 gr. Ampicilin	4 bottles
1 gr. Ampicilin	16 capsules
Chrom. catgut # 1	2 envelopes
Simple catgut # 1	1 envelope
Chrom. catgut # 2	1 envelope
Dexon # 1	1 envelope
Folley tube # 14	1 unit
Dioxadol	3 ampoules
Vitamin K	1 ampoules
Insuline serynge	1 unit
Ophtalmic ointment	1 tube

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Information to be provided to the patient about
ECLAMPSIA

What kind problem do I have?

Explain the problem:

The Chills, seizures, faints (convulsions) that happened to you was due to you blood pressure, it was too high and it was not controlled.

What can happen to me and my baby?

Consequences of the problem:

If eclampsia is not immediately treated, you can have another seizure and you and your baby could die.

What will they do or give to me?

Treatment/Procedure:

For I level

- We will administer medicines to avoid another seizure and to lower your blood pressure
- We will remove secretions from your mouth.
- We will put a little tube in your mouth to help you to breath.
- We will take blood and urine tests.

For level II (Provide level I information plus the following)

- We will help you, so that the delivery starts as soon as possible either provoking the delivery or practicing an operation called cesarean section. This will depend on your health conditions and your baby's.

URINARY INFECTION

Definition

It is the presence of more than 100.000 colonies of bacteria per ml of urine obtained through an uroculture exam. The most frequently micro-organisms found include: E. Coli, Klepbsiella sp., Proteus spos., Enterococcus, Streptococcus and Stafilococcus.

It is one of the most frequent infections during pregnancy since it implies a series of factors favorable to its development.

It is associated to premature deliveries and neonatal infections.

Classification

1. Asymptomatic bacteriuria.
2. Lower urinary infection (Cystitis).
3. Higher urinary infection (Pyelonephritis).
4. Chronic infection.

Risk factors

- History of previous urinary infection.
- History of vesical catheterization (Folley catheter).
- History of premature delivery.
- History of perinatal mortality.
- Pregnancy hypertensive syndrome.
- Not enough or inadequate perineal hygiene.
- Current anemia.

ASYMPTOMATIC BACTERIURIA

- "Asymptomatic bacteriuria" -- as its name indicates -- does not show symptoms.
- It is diagnosed by finding bacteria in a rutinary urine test which is taken in the first prenatal control visit.

LOWER URINARY INFECTION (CYSTITIS)

Clinical signs

- Poliaquiuria (frequent and scarce micturition).
- Disuria (pain or itching while urinating).
- Micturiting urgency (need to urinate).
- Vesical tenesmo (desire to urinate right after finishing it).
- Sometimes in hematuria (presence of blood in the urine).

Preventive management

- Teach technique for genital and rectal hygiene in order to avoid contamination from urinary meatus with intestinal germs.
- Avoid unnecessary vesical catheterization (Folley tube).
- Follow-up urinary infections to prevent relapse.

Curative management

- Explain the patient about the chart, pregnancy risks and the importance of complying the treatment.
- Rest, according to clinical chart.
- Forced consumption of liquids (3 to 4 lts/day).
- Explain the patient that she must come for control if symptoms continue after 3 or 4 days.
- Assess presence of uterine dynamic.

HEALTH POST

Laboratory tests

- Strip test looking for nitrites (their presence indicates bacteriuria and the need of an uroculture and an antibiogram).
- If possible perform nitrites test and if there is a doubt of urinary infection, try hard to refer her to a center

with laboratory for urocultive and antibiogram exams.

Treatment

- If referral is not possible, start treatment with:
 - 100 mg Nitrofurantoin every 8 hours v.o. during 10 days.
 - Analgesics, as required.
- If symptoms do not disappear with treatment, follow-up.

Seven days after completion of treatment, practice strip test for nitrites (if they show up, uroculture and antibiogram are needed).

Referral Criteria

- If there is any doubt to confirm laboratory diagnosis.
- If laboratory support is not available and symptoms persist after the first treatment.
- Refer to health Center or district Hospital if after completing the treatment strip urine test shows the presence of nitrites positive.
- In case of premature labor.

HEALTH CENTER

Laboratory tests

- Strip test looking for nitrites (their presence indicates bacteriuria and the need of a uroculture and an antibiogram).
- Urine exam with exploration of sedimentation.
- Uroculture with recount of colonies, antibiogram.

Treatment

- While waiting for results of the antibiogram, start treatment with some of the following schemes:

Scheme one:

- 100 mg Nitrofurantoin every 8 hours during 10 days (after meals).
- Analgesics, as required.

- Adjust treatment to antibiogram results.

Scheme two:

- 2 gr/day Ampicilin v.o. (500 mg every 6 hours) during 10 days, after meals.
- Analgesics, as required.

Follow-up

- Seven days after completion of treatment:
 - Strip test looking for nitrites (if they still exist, uroculture and antibiogram are needed).
 - Exam of urinary sedimentation.
 - Uroculture and antibiogram if symptoms persist.
 - Then, detection of nitrites through strip test every month during pregnancy and puerperium until germs are eliminated.
- If through control exam (nitrites, sedimentation or culture) recurrence is established, repeat the treatment and then continue with suppressive therapy 50 mg Nitrofurantoin 2 or 3 times daily, to complete 30 days or until the delivery, according to clinical chart or tolerance.

Referral Criteria

- Refer if there is not laboratory support.
- Persistent or relapsing asymptomatic bacteriuria after treatment.
- If signs and symptoms persist after the first treatment.
- Refer to second care level if at completion of treatment any of the following conditions are found:
 - If strip urine test shows presence of nitrites.
 - If exam of urinary sedimentation in second control still contains micro-organisms and/or if signs and symptoms persist.
 - If uroculture shows more than 100.000 colonies of micro-organisms per ml.
 - If symptoms of premature labor appear and resources are

not available.

DISTRIC HOSPITAL

Laboratory tests

- Strip test looking for nitrites (their presence indicates bacteriuria and the need of uroculture and antibiogram).
- Urine exam with exploration of sedimentation.
- Uroculture to recount colonies, antibiogram.

Treatment

- While waiting for results of antibiogram, start treatment with any of the following schemes:

Scheme one:

- 100 mg Nitrofurantoin v.o. every 8 hours during 10 days.
- Analgesics, as required.

Scheme two:

- 2g Ampicilin/day (500 mg every 6 hours) v.o. during 10 days.
- Analgesics, as required.
- Adjust treatment according to results of antibiogram.

Scheme three:

- 100 mg Trimetoprim every 12 hours v.o. during 10 days.
- Analgesic, as required.

Follow-up

- Seven days after treatment completion:
 - Exam of urinary sedimentation and nitrite test (if they still appers, uroculture and antibiogram are needed).
 - Uroculture and antibiogram.
 - Then sedimentation exam every monthly during pregnancy and puerperium to assure elimination of germs.
- If in the control exam (nitrites, sedimentation or culture) recurrence is established, repeat treatment and continue

suppressive therapy: 50 mg Nitrofurantoin² or 3 times a day to complete 30 days or until delivery, according to chart and treatment.

Referral Criteria

- Refer to care level III when completing a second administration of the treatment and any of the following conditions is found:
 - Urinary sedimentation exam still shows presence of micro-organisms.
 - Uroculture shows more than 100.000 colonies of micro-organisms per ml.
 - If symptoms of premature delivery appear and resources as described in the corresponding protocol are not available.

HIGHER URINARY INFECTION (ACUTE PYELONEPHRITIS)

Clinical signs

- Overall conditions compromised; fever, chills (involuntary muscular tremor with cold sensation).
- Nausea and in occasions vomits.
- Kidney pain, pain when applying soft beat with fist on the back in the space located under the ribs.
- With history or not of:
 - Poliaquiuria (frequent and scarce micturition).
 - Disuria (pain or itching while urinating).
 - Micturiting urgency (need to urinate).
 - Vesical tenesmo (desire to urinate right after doing it).
 - Eventual hematuria (presence of blood in the urine).

Management

- Explain the patient about the chart, pregnancy risks and the importance of complying the treatment.
- Control vital signs.
- Hydration if necessary. Forced consumption of liquids (3

to 4 lts/day) or administer cristalid solutions (physiological salt solution, Ringer, etc.).

- Help to drop temperature through physical procedures (apply cold wet clothes on forehead and underarms) or use antipiretic (500 mg. Paracethamol v.o. every 6 hours).
- Assess presence of premature delivery.

HEALTH POST

Treatment

- Refer to Health center or District Hospital starting treatment with:
 - 80 mg. IM Gentamicin.
 - 1g. v.o. Ampicilin.
 - Analgesics, as required.

Referral Criteria

- Any patient with confirmation or doubt of pyelonephritis must be referred to Health Center or District Hospital, according to availability of laboratory support and admission.

HEALTH CENTER

Laboratory tests

- Strip test looking for nitrites and hemoglobine.
- Hemogram (search of signs of anemia, increase of leucocytes predominating neurophyles).
- Urine exam with exploration of sedimentation to look for hemoglobine, leucocytes, cylinders and bacteries.
- Uroculture to recount colonies (more than 100.000 colonies per ml.).
- Serum creatinin (increased due to depuration failure).

Treatment

- If diagnosis is confirmed, she must be admitted.
- If hospital admission is possible, start treatment with:

- 80 mg IM Ampicilin every 8 hours during 15 days.
- 1 g v.o. Ampicilin every 8 hours during 15 days.
- Analgesics, as required.
- Adjust treatment to antibiogram, if necessary.

Follow-up

- Fever and discomfort should disappear on the third day of treatment, if they do not, adjust treatment to what antibiogram indicates or transfer patient to third care level.
- Seven days after completion of treatment:
 - Exam of urinary sedimentation.
 - Urocultive and antibiogram.
 - Then sedimentation exam every month during pregnancy and puerperium to assure elimination of germs.
 - If in the control exam (nitrites, sedimentation or culture) recurrence is established, repeat treatment and continue supressive therapy: 50 mg Nitrofurantoin 2 or 3 times a day to complete 30 days or until delivery, according to chart and treatment.
- If hospital admission is not possible, procede as in the health post.

Referral Criteria

- If laboratory and hospital admission are not available, any patient with confirmed or suspicioun pyelonephritis should be transferred to II or III level of attention, according to resources.

DISTRICT HOSPITAL

Laboratory tests

- Hemogram to search for signs of anemia, increase of leucocytes predominating neurophyles.
- Urine exam with exploration of sedimentation to look for hemoglobine, leucocytes, cylinders and bacterias.
- Uroculture to recount colonies (more than 100.000 colonies per ml.).

- Serum creatinin (increased due to depuration failure).

Management

- Hospital admission.
- Complete rest.
- Control of vital signs every 6 hours.
- Complete reinforced hydration regime (3 to 4 lt/day); if necessary administer cristaloid solutions (physiological, Ringer, etc.).

Treatment

- Help to lower temperature through physical procedures (apply cold wet clothes on forehead and underarms) or use antipiretic (500 mg. Paracethamol v.o. every 6 hours).
- Start treatment with:
 - 80 mg Gentamicin every 8 hours IM or IV during 15 days.
 - 1 g Ampicilin v.o. every 8 hours during 15 days.
 - Analgesics, as required.
- Adjust treatment to antibiogram, if necessary.
- Assess presence of premature labor. Indicate treatment if necessary.

Follow-up

- Fever and discomfort should disappear on the third day of treatment, if they do not, adjust treatment to what antibiogram indicates or transfer patient to third care level.
- Seven days after completion of treatment:
 - Exam of urinary sedimentation.
 - Urocultive and antibiogram.
 - Then, sedimentation exam every month during pregnancy and puerperium to assure elimination of germs.
- If in the control exam (nitrites, sedimentation or cultive) recurrence is established, repeat treatment and continue suppressive therapy: 50 mg Nitrofurantoin 2 or 3 times a day to complete 30 days or until delivery, according to chart and treatment.

- If hospital admission is not possible, procede as in the health post.

Criteria for referral

- Refer to care level III, for patients with relapse or those whose symptoms and signs persist after treatment.
- If availability of resources is not enough for the described management.

Resources

LOWER URINARY INFECTION (CYSTITIS)

Ampicilin	500 mg	60 capsules
Nitrofurantoin	100 mg	45 tablets
Nitrofurantoin	100 mg	75 tablets (continuos dose)

HIGHER URINARY INFECTION (PYELONEPHRITIS)

Ampicilin	1 g	45 capsules
Gentamicin	80 mg	45 ampoules
Paracetamol	500 mg	10 tablets
Ringer solution	1.00 cc	1 bottle with infusion equipment

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**Information to be provided to the patient about
URINARY INFECTIONS**

What kind of problem do I have?

Explain the problem:

You have an infection in your urine. Maybe you feel no discomfort or maybe you feel like urinating and when you do it you only eliminate scarcely with pain; this can affect the pregnancy.

What can happen to me and my baby?

Consequences of the problem:

If the infection is not treated timely, your kidneys can be affected and you may have a premature delivery

What will they do or give to me?

Treatment/Procedure:

For I level

- We will practice some exams in order to confirm the infection.
- You will consume a lot of liquids.
- You will rest in bed.
- The proper medicines will be administered.
- If within 2 days you are not feeling better, we will have to send you to the hospital for a complete study.
- If with this treatment you feel better, you will have a control visit.

For II level (Provide information for I level and add the following)

- We will practice a detailed exam of your urine to indicate you the necessary medicines to stop the infection.
- If necessary, you will be admitted at the hospital and we will observe your general conditions and your baby's.

PREMATURE RUPTURE OF MEMBRANES

Definition

It is the rupture of the corioalantoidea membranes before starting labor or abortion, at any fetal age. Maternal and fetal risk is higher when the rupture occurs earlier.

Fetal risk

- Prematurity (hyaline membrane, intraventricular hemorrhage and asphyxia).
- Umbilical cord compresion.
- Cord or foot/hand prolapse.
- Fetal distress.
- Malpresentation.
- Sepsis.
- Higher perinatal morbi-mortality.

Maternal risk

- Corioamnionitis (ovular infection).
- Endometritis.
- Higher incidence of cesarena section.
- Amniotic embolism.
- Premature rupture of normoinserted placenta in term pregnancy.

Risk factors

- In most cases it is spontaneous and causes are unknown.
- Associated to vulvovaginitis.
- Multiple pregnancy.
- Corioamnionitis.
- Fetal malpresentation.
- Excessive physical efforts.

- Urinary infection.
- Over strained uterus (polihydroamniosis, fetal macrosomy, cephal-pelvic disproportion).
- Nutritional deficit.
- History of rupture of membranes.
- Cervical incompatibility.
- Traumatism.
- Pre-partum hemorrhage.
- Abnormal adherence of inferior pole.

Clinical signs

- Involuntary and sudden expulsion of amniotic liquid through genitals. It is worsen by effort and movements of pregnant woman.
- This spontaneous expulsion of liquid can be intermitent and scarce or permanent and abundant.
- Liquid is verified by the background of the woman, abdominal touching and inspection of external genitals. Do not practice internal genital exam.
- Abdominal palpation allows to appreciate diminution of volume and uterine height. Fetal parts can be easily touched and they are prominent.
- External genital inspection: When separating major labia and while patient pushes or coughs, expulsion of amniotic liquid is observed.

Differential diagnoses

- Leucorrhea.
- Mucus.
- Involuntary expulsion of urine.

Management

- Confirm diagnose.
- Carry out a careful anamnesis asking questions about:
 - Expulsion of liquid through the vagina or feeling of humidity in genitals.

- Color, amount and frequency of expulsion of liquid.
- Accurate date and time of loss of liquid.
- If the patient had fever.
- Discard presence of cord prolapse visualizing the cord in vulve or vagine. If this complication is confirmed, refer to annex 7.
- Explain the patient what is happening, risks during the pregnancy, and what you will do.
- Control vital signs (pulse, blood pressure, underarm and rectal temperature) .
- Practice obstetrical exam:
 - Diagnose fetal position.
 - Assess uterine dynamic.
 - Estimate carefully fetal age by the date of last menstruation and fetal weight estimation by abdominal touching.
 - Do not practice vaginal or rectal exam.

HEALTH POST

- If the patient starts labor with pregnancy at term, attend her taking all septic and antiseptic measures.
- Assess need of further referral of mother and baby according to maternal and neonatal risk.

Treatment

- If labor is not established within 6 hours or if signs of infection appear, administer 500 mg Ampicilin IM or IV or 1.200.000 U IM Procainic penicilin and refer for resolution of delivery.

Referral criteria

- If diagnose confirmed or suspicioun, and if pre-term pregnancy, refer to care level II.
- In pregnancy at term, if labor does not start within 6 hours after rupture or before if signs of infection appear.
- If umbilical cord prolapse is confirmed or if there is any doubt.

HEALTH CENTER

- Practice exam with speculum according to described technique only:
 - If it is necessary for differential diagnosis.
 - If patient reports having contractions and doubt of cord prolapse.
- When performing exam with speculum, observe expulsion of liquid through cervical external orifice. If you do not see liquid, press uterine fundus or make the patient cough (Valsalva maneuver). While more recent the rupture, the probability of observing liquid is higher.
- If possible, practice a massage to observe an arborescent pattern of disecation (take into account that arborescence of amniotic liquid is negative 6 hours after rupture).
- If pregnancy at term with more than 35 weeks and there is no infection, observe resolution of spontaneous delivery (80-90% of cases occur before 24 hours).
- Attend the patient taking all septic and antiseptic measures.

Treatment

- If labor is not established within 6 hours or if signs of infection appear, administer 500 mg IM or IV Ampicilin every 6 hours, or 1.200.000 U IM procainic penicilin, and refer for resolution.

Referral criteria

- If diagnosis is confirmed or any doubt and if pregnancy is at term, refer to II or III level according to the resources for the care of the new born.
- In case of pregnancy at term, if labor does not start 6 hours after rupture, or before if signs of infection appear.

DISTRICT HOSPITAL

- Practice ultrasound to:
 - Confirm diagnosis.
 - Confirm fetal age and, especially, fetal size.

- Identify fetal presentation, position and conditions.
- Estimate volume of amniotic liquid.
- Confirm that cord is not compressed.
- Only if necessary, according to obstetrical and anamnesis results, verify dilation and discard prolapse of cord through vaginal and speculum exams using strict septic and antiseptic techniques.
- Once diagnostic is confirmed:

Overall indications

- Complete rest (hospital admission).
- Monitor maternal vital signs every 4 hours.
- Instruct laboratory tests:
 - Leucogram.
 - Eritrosedimentation velocity (ESV).
 - Quantitative reactive C protein (RCP) (negative results suggests absence of infection).
 - General urine test.
- Take into account sepsis and antisepsis in all procedures. Perineal hygiene 3 times a day; protect genital with sterile gauze and change it frequently.

Specific indications

- Less than 27 weeks:
 - Do not practice vaginal exam.
 - Do not use Ritodrine to suppress uterine contractions.
 - Expectant behavior (if within 48 hours the delivery does not start, use induction).
 - 80% of cases, the delivery, the infection, or both will occur within one week.
 - 500mg v.o. Ampicilin every 6 hours.
- Between 27 and 35 weeks:

- Maintain expectant behavior as long as signs of infection do not appear.
- Take sample for cervix and vagine culture and antibiogram.
- 500 mg v.o. Ampicilin every 6 hours (adjust according to antibiogram).
- Echography for control.
- Practice Celments test to find out pulmonary maturity.

Pulmonary maturation

- *Pulmonary immaturity without labor*
 - 12 mg Betametasone. Repeat within 24 hours.
 - Wait 48 hours.
 - Assess maternal fetal wellbeing.
 - Decide about the best moment to induce the delivery (asses feasibility of expectant bahavior).
- *Pulmonary immaturity with labor*
 - Cortisone (Cidoten 1 bottle immediately).
 - Assure the best conditions for care of the new born.
- *Pulmonary maturation without labor.*
 - Decide about the best moment to induce the delivery (asses feasibility of expectant bahavior), assuring best conditions for fetus and new born care.
- 36 weeks and more:
 - Verify fetal presentation, position and conditions.
- If spontaneous delivery is not solved within 6 hours after rupture, start induction.
- If there are no signs of infection or if rupture occured more than 6 hours earlier, start antibiotherapy:
 - 500 mg IV or IM Ampicilin every 6 hours.
 - If inductions fails or if there are signs of fetal distress, cesarean section is indicated.

Referral criteria

- If resources are not enough for the described management.
- If resources are not enough for the care of the pre-term new born.

Resources

- Ampiciline 500 mg.
- Procainic penicilin 1.200.000 U.
- Oxytocic 5 UI.
- Bemathasone 12 mg.
- Cidoten.
- Physiological Ringer solution.
- Speculum.
- Gloves.
- Sterile gauze.
- Venoclysis.

**Information to be provided to the patient about
PREMATURE RUPTURE OF MEMBRANES WITH OR WITHOUT INFECTION**

What kind of problem do I have?

Explain the problem:

You are losing this liquid because your amniotic liquid sack has broken before the delivery starts.

What can happen to me and my baby?

Consequences of the problem:

It is very probable that delivery will start. But if within 6 hours the delivery does not start, your parts (uterus) and your baby can have an infection.

What will they do or give to me?

Treatment/Procedure:

For I level

- We will practice an exam of your parts (genitals) to verify if you are really losing liquid and to determine the baby's conditions.
- If we confirm that it is the due time for your baby to be born, we will help you with the delivery.
- If we confirm that your baby is not prepared to be born, we will refer you to the hospital for a more complete treatment.

For II level (Provide information for I level and add the following)

- We will practice an echography to confirm rupture of the sack and to find out your baby's conditions.
- If your baby is not prepared to be born, we will practice a series of exams to determine the most adequate moment for his/her birth.
- If we find that your baby's lungs are not yet mature, we will administer you medicines to help them to mature so that the birth shows no complications.

- If we confirm that your baby is prepared to be born, we will help you with the delivery.
- Likewise, to avoid infections, we will give you medicines (antibiotics).

PREMATURE RUPTURE OF MEMBRANES WITH INFECTION (CORIAMNIONITIS)

Definition

Is the presence of germs inside the uterus as consequence of premature rupture of membranes. Is is a serious clinical chart, especially before the 27th week of pregnancy (if the fetus is not viable the case can be considered as a septic asbortion).

Maternal risk

- Local or general acute pelvic inflamatory process. Comlications can be immediate or mediate and can cause secondary sterility.
- Maternal mortality.

Fetal risk

- Onfalitis.
- Piodermitis
- Bronchoneumonia
- Sepsis
- Perinatal death

Clinical signs

- Loss of dark, purulent and smelling amniotic liquid.
- Implicates general conditions.
- Underarm and rectal temperature higher than 37,5° C.
- Maternal tachycardia.
- Fetal tachycardia higher than than 160 heart beats per minute.
- Abdominal pain.

Management

- Monitor vital cycle.

- Explain the patient and family members about the risks and what you are going to do.
- Terminate pregnancy within no more than 8 hours.

HEALTH POST AND CENTER

Treatment

- If diagnosis is confirmed, start treatment with 500 mg IM or IV Ampicilin every 6 hours (or 1.200.00 units IM procainic penicilin) and refer immediately, independently of fetal age.
- If the patient is in the expulsive stage attend the delivery and the new born using rigorous septic and antiseptic techniques. Refer them both as soon as possible, according to conditions.

Criteria for referral

- If diagnos is confirmed or any doubt, patient must be referred to a care level which assures them the best conditions for management of infectious sight.

DISTRICT HOSPITAL

Management

- Hospital admission.
- Explain the sight to the patient, tell her about the risks and what you are going to do.
- Plan to finish pregnancy within a period of time not longer than 8 hours, if possible vaginal, independently of fetal age.
- Report Neonatology services about fetal conditions.
- Practice cesarean section only if indication is absolute (tranverse, cord prolapse, fetal distress or another complication in which it is indicated).
- Antibiotherapy:
 - If possible, take culture and antibiogram and use the most sensible antibiotics; if not, take a sample and start treatment following any of these schemes:

Scheme one:

- 1 g Ampicilin v.o. every 6 hours.
- 80 mg Gentamicin IV every 8 hours.
- During first 5 doses. Then continue intramuscular treatment for 7 to 10 days.

Scheme two:

- 500 mg Metronidazol IV in 30 minutes; continue with the same quantity at slow dropping every 98 hours.
- 1 to 2 g Cefotaxim IV every 8 hours.
- 80 mg Gentamicin IM every 8 hours, or 500 mg Amikacin every 8 hours.
- During the first 5 doses. Then continue intramuscular treatment for 7 to 10 days.

Scheme three:

- 300 to 400 mg IV Clindamicin every 6 hours.
- 80 mg IV Gentamicin every 8 hours.

In case there is no response to treatment of above-described schemes, consider use of antimicrotics.

Use aminoglycosides only if kidney functions are fine.

Referral Criteria

- If patient presents complications which cannot be solve at this level, refer to a higher level of complexity to assure the best conditions of clinical manatement.
- If it is a pre-term pregnancy and resources are not enough to provide care for the new born.

Resources

- 500 mg Ampicilin
- 80 mg Gentamicin
- 500 mg Metromidazol
- 1 g Cefotaxima

- Clindamicin
- 1.000 cc Physiological/Ringer solution
- Venoclysis
- Cesarean section kit

PROLONGED PREGNANCY

Definition

Any pregnancy surpassing the 42nd week or 294 days from the first day of last normal menstrual period. This situation can condition a placental insufficiency and increase a perinatal risk.

Maternal risk

- Higher incidence of cesarean section.

Perinatal risk

- Intrauterine asphyxia.
- Associated to fetal malformation.
- Fetal death.
- Meconium aspiration syndrome.
- Higher incidence of fetal macrosome.
- Higher incidence of obstetrical trauma.

Management

- Explain the patient what is happening, tell her about risks and about the importance of complying indications.
- Diagnostic is based on accurate knowledge of fetal age:
 - Ask the patient about the date of her last menstrual period. This data is reliable if the woman had previous menstrual periods regularly and has no history of hormonal medicines or contraceptives during the three previous periods.
 - Evaluate if uterine size and amenorrhea are consistent.
 - Data of clinical history related to development of uterine height and date of first fetal movements are very important; inquire about the latter if clinical history is not available.
- If the pregnancy had a normal evolution, with no complications:
 - Recommend natural methods to stimulate the delivery (walks, sexual relations, hot food, etc.).
 - Recommend the patient not to take infusions (labor stimulants).

- If pregnancy is under 40 weeks, indicate a control visit within one week and observe spontaneous beginning of labor.

HEALTH POST AND CENTER

Criteria for referral

- If fetal age cannot be determined, refer to II level care II.
- If fetal age is accurate, refer patients who, with 42-week pregnancy, have no signs of labor in order to evaluate fetal conditions and interruption of pregnancy.

DISTRICT HOSPITAL

Additional exams

- Practice obstetrical echography to determine fetal age, degree of placental maturation, volume of amniotic liquid, and quantity of vermix in suspension.
- If there is no echography, other alternatives for fetal assessment include:
 - Fetal biophysical profile (FBP) to determine fetal vitality.
 - Practice amniocentesis: finding amniotic liquid with abundant lumps and filante are associated to post-maturity.
 - Non-stressing test (NST): provides data about functional placental reserve.

Management

- If FBP, amniotic liquid in amniocentesis and NST are normal and favorable obstetrical conditions suggest pregnancy is at term, start induction of delivery.
- If there is no history of risks (previous cesarean section or any associated pathology), elective termination through the most adequate method -- according to fetal and obstetrical conditions -- is indicated.
- If there is damage of fetal-placental unit (oligoamnia, presence of meconium in amniotic liquid, positive baseline register of fetal heart beats frequency regarding contractions) remove fetus immediately the quickest way at

the moment of diagnosis.

Criteria for referral

- If resources are not enough for the described management, refer to level III.

Resources

- Perinatal clinical history.
- Equipment for Amniocentesis.
- 5 UI Oxytocics (ampules).
- Flebotomy.

Information to be provided to the patient about
PROLONGED PREGNANCY

What kind of problem do I have?

Explain the problem:

Based on the clinical exam we can say that your baby is prepared for birth. However, to date there are no indications of contractions necessary to provoke the delivery.

What can happen to me and my baby?

Consequences of the problem:

If we do not treat this problem, the placenta will lose its capacity to feed and provide oxygen to your baby; and if we wait longer, this will damage your baby and he/she will suffer complications.

What will they do or give to me?

Treatment/Procedure:

For I level

- You will be asked some questions to find out when your pregnancy started.
- We will practice some abdominal exams to measure your baby's size and estimate his/her age.

For II level (Provide I level information plus the following)

- If it is possible, an echography should be done.
- If we confirm that your baby is prepared for birth, we will administer medicines to provoke contractions so that the baby can be born.
- Likewise, if we find any complication, we will practice an operation called cesarean section since your baby will start suffering and a normal delivery will cause him/her more suffering.

DEATH AND RETAINED FETUS

Definition

It is the death of the fetus at any stage of the pregnancy after the 20th week with no spontaneous expulsion.

It is called fetal intermediate death when it occurs between the 20th and the 28th week; and delay fetal death, after the latter.

Its ethiology is unknown in 30-40% of cases.

It is usually associated to:

- Genetical causes.
- Pregnancy Induced Hypertension (PIH).
- Diabetes mellitus.
- Urinary infection.
- Lupus (LES)
- Isoimmunization.
- Oligoamnia
- Parasites or infections (malaria, syphilis)
- Umbilical cord (infection)

Clinical signs

- Absence of fetal movements.
- Delayed uterine growth.
- Absence of fetal heart beats monitored at least every 15 minutes within two hours.
- Dark scarce and intermitent genital bleeding, without pain.

Management and treatment

- It is important to be certain about the diagnostic before giving the information to the patient and her family members.

HEALTH POST AND CENTER

Referral Criteria

- If this complication is confirmed or any doubt about it, refer patient to level II for resolution.

DISTRICT HOSPITAL

Additional exams

- If you have doubts, request:
 - Echography to show collapse of cranial profile, straddling, absence of fetal movements, fetal heart beats and tone.
 - If echography is not available, request simple abdominal X Ray, this will be the case in which fetal death occurred 7 or days ago or more and it will show straddling of cranial bones, loss of fetal attitude and gas in cardiac cavities and large vessels.

Management

- If fetal death occurred at least two weeks before diagnosis confirmation, explore changes in maternal blood coagulation through:
 - Quantification of plaques.
 - Fibrinogeno.
 - Partial time of tromboplastina.

Treatment

- Evaluate obstetrical and pathologic history, fetal conditions and presentation, cervical conditions in current pregnancy. If they are not favorable, practice cesarean section or micro-c-section.
- If they are favorable, practice inducto-conduction with 40 units of oxytocics to have uterine reaction, adjusting dose according to uterine dynamic.
- Administer supplementary prostaglandines (SPG) 6 hours previous to induction.
- If there is any doubt or confirmation of severe corioamnionitis, refer to level III for hysterectomy in block.
- Inhibit breastfeeding in the puerperium with:
 - Strogen
 - 2,5 mg Bromocriptin v.o. every 12 hours during 14 days.
 - Avoid extraction and place compress in the breasts with

bandage during 3 to 5 days.

- During the puerperal period administer:
 - Oxytocics to prevent uterine atony.
 - Antibiotics to avoid associated infectious processes.

Referral Criteria

- Coagulation disorders.
- Severe chorioamnionitis.
- If there is any doubt about the diagnostic and resources are not available for confirmation.
- If resources are not enough for the described management.

Resources

- Oxytocine, 5 units, ampules.
- Strogen.
- Bromocriptin.
- Physiological, glucosed solution, lactate, salt or Ringer solution.
- Pinard stethoscope.
- Venoclysis.
- Cesarean section kit.

Information to be provided to the patient about
DEAD AND RETAINED FETUS

What kind of problem do I have?

Explain the problem:

Lady, after this careful exam, we have performed to determine your conditions and your baby's conditions, we verified that your baby's heart beats cannot be heard. This means that your baby is not alive; we will help you with the delivery.

What can happen to me and my baby?

Problem Consequence:

If the delivery does not occur, there will be complications with your blood.

What will they do or give to me?

Treatment/Procedure:

For level II (exclusively)

- After a clinical exam, we will determine if you will have a vaginal delivery (through your parts) or if you will have a cesarean section operation.

Vaginal delivery: We will try to induce the delivery. We will give you some solution which will provoke contractions and dilation of your parts to help the birth of your baby.

Cesarean section: If the previous treatment does not work or if vaginal delivery is not the safest for you at this time, we will practice an operation called cesarean section.

(Note: In case that a cesarean section is carried out, use the corresponding protocol).

PREGNANCY HEMORRHAGES

(1ST. QUARTER)

ABORTION THREAT

DEFINITION

It is the presence of increased uterine activity without cervical modifications before the 20 weeks of amenorrhea.

It may evolve to inevitable abortion.

RISK FACTORS

- Malnutrition, anemia.
- Socioeconomic conditions.
- Adolescence and climaterium
- Infections: mainly urinary, toxoplasmosis
- Background of repeated abortions and curettages
- Violence against women
- Stress or traumatisms
- Hormone disorder
- Malformation of uterine cervix, uterus or annexes
- Genetical
- Wrong implantation
- Unwanted pregnancy

CLINICAL SIGNS

- Amenorrhea (lack of menstruation).
- Pregnancy symptoms and signs (nausea, vomiting, etc.)
- Pain in the lower abdomen, colico like.
- Scarce hemorrhage, painful, intermitent, fresh blood without bad smell.
- Vaginal touch: (make it gently, avoid stimulation):
 - . Uterus size according to gestational age, growth can be felt and sensitive. Can be felt easily.

- . Cervix without any modifications, long, close and soft consistency.

CONSIDERATIONS

- Genetical alterations lead to abortion in the first 8 weeks of gestation.

DIFERENTIAL DIAGNOSIS

- Late Menstruation
- Cervical hemorrhages (erosion or ulcers)
- Vaginal hemorrhages (infections or varicose vains)
- Induced Abortion
- Unavoidable Abortion
- Missed Abortion (retain and death egg)
- Atopic pregnancy
- Molar pregnancy

GENERAL MANAGEMENT

- State diferential diagnosis with other causes of hemorrhage
- Give counseling, avoid judgements about her and her family, guiding her about the risks and the importance of an appropriate management.
- Control vital signs.
- Determine the cause.
- Absolute bed rest.
- Hospitalization if the woman can not rest at home, or in case she can not rest at home and the symptoms persist.
- Sexual abstinence.
- Disregard and treat urinary tract infections. (see urinary infection's protocol).

HEALTH POST**Treatment**

- Offer pain killers if necessary

Referral Criteria

- Refer to Level II all the patients that continue with genital hemorrhage and pain, despite treatment.
- If they can not rest at home and need hospitalization.

HEALTH CENTERS**Laboratory Tests**

- Pregnancy tests, immunological or biological (determine gonadotropins)
- Hemogram
- Group classification and Rh
- Complete urine

Treatment

- Indometazin 1 suppository 100 mgrs every 24 hours for three days
- Analgesics if necessary

Referral criteria

- Refer to level II all patients that continue with genital hemorrhage or pain regardless of treatment.
- If they can not rest at home and need hospitalization.

DISTRICT HOSPITAL**Laboratory tests**

- Echographia (fetal vitality, ovular detachment, atopic pregnancy).
- Pregnancy test immunologic or biologic (determine gonadotropins)

- Hemogram
- Group clasification and Rh.
- Urine complete

Treatment

- Indomethacin 100 mg (suppositories)
- Analgesics.

Referral Criteria

- If there are complications and their management requires resources from level III.

Resources

- Indometazin 100 mg (suppositories)
- Analgesics
- Sterile Gloves

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**Information for the patient about
ABORTION THREAT**

What problem do I have?

Problem explanation:

At this moment you are having contractions and bleeding that could endanger the progress of your pregnancy.

What could happen to me and my baby?

Problem consequences:

If this problem is not controlled by a health professional, your pregnancy might end (have a misscarriage)

What are they going to do and what they are going to give me?

Treatment/proceedings

For level I

- We'll take your blood pressure and pulse.
- We'll give you medicines to stop contractions and bleeding. This way we'll help your pregnancy to continue.
- It is necessary to rest at home and no sexual relations.

For level II (Give the information of level I and add this one)

- If it is not possible to rest at home completely and/or the contractions continue in spite of treatment, it might be necessary to hospitalize you.
- If possible, an echographia will be done, also a blood and urine exam.

UNAVOIDABLE ABORTION

Definition

Unavoidable abortion is characterized by the imminent expulsion of the product before 20 weeks of gestation, due to the presence of some of the following conditions:

- Membranes rupture or amniotic liquid loss
- Ovular infection
- Profuse Hemorrhage
- Cervical dilatation or uterine contractions in spite of treatment.

According to the termination it can be:

Complete, if the product and the ovular annexes have been expelled.

Incomplete, if remains of the products of ovular annexes are inside the uterus.

Risk factors

- Antecedents of abortions or premature deliveries.
- Maternal age older than 40 years.
- Maternal undernourishment.
- Infectious diseases (acute or chronic).
- Exertion, traumatism
- Endocrinological Imbalance
- Cervix, uterine or annexes malformations
- Genetic cause
- Bad implantation

Maternal risks

- Hemorrhage

- Anemia
- Shock
- Maternal death

Clinical Signs

- Unavoidable abortion in evolution:
 - . Increase volume of the uterus (that corresponds to menstrual delay or amenorrhea).
 - . Hemorrhage coming from the uterus, scarce, painful, occurring intermittently, fresh blood without foul-smell.
 - . Lower abdominal pain
 - . Uterine contractions
 - . Loss of amniotic liquid, could occur.
- In vaginal examination:
- Cervical internal orifice dilatated.
- Entire or broken membranes.
- Fetal parts are felt.
- Incomplete abortion (abortion remainders)
 - Soft uterus with smaller size than the one corresponding to the delay or amenorrhea.
 - Painful at movement.
 - Metrorrhagia variable
- In vaginal examination:
 - External and internal Cervical orifice open.
 - Presence of blood coming from the uterus, usually with ovular remainders.

General management

- Guidance for her and her family
- Avoid judging her

- Explain what is going on, what are the risks, and the proceedings she will undergo.
- Control vital signs
- Identify if the abortion is in progress, or if it is a complete or an incomplete abortion.

HEALTH POST

Treatment

- If it is in evolution or incomplete abortion or if the hemorrhage is compromising the general condition and there is severe hypotension:
 - Catheterize vein with butterfly needle No 19, physiological solution or Ringer 1.000 cc continuous dripping (gush) and refer her to level II.
 - Immediate referral
- If you can be certain that a complete abortion was produced:
 - Methylergonovin 0,2 mg i.m.
 - Observe evolution, control of vital signs, and bleeding in the next 24 hours.

Referral Criteria

- If there is any doubt or confirmation of an unavoidable abortion, or incomplete abortion, she should be referred to level of care II.
- If complication signs appeared in a complete abortion

HEALTH CENTERS

Laboratory tests

- Hemogram and sedimentation rate
- Blood Group classification and Rh.
- A complete urine test.

Treatment

- Same treatment that at the Health Post.
- If the diagnosis of unavoidable abortion is confirmed, add to the solution 10 unities of Oxitocin at a rate of 10 drops a minute
- Referral.

Reference criteria

- All the patients should be refered to level II with the indicated treatment.

DISTRICT HOSPITAL**Laboratory tests**

- Hemogram and sedimentation rate
- Group clasification and Rh
- A complete urine test

Treatment

- Treatment same as described for the Health Post and Center
- Do uterine scraping or uterine aspiration if the abortion ends up incomplete (under anesthesia).

Referral criteria

- Patients in shock that need blood reposition.
- Patients with infected abortions.

Resources

- Methylergovin 0,2 mg (ampullas)
- Physiological saline solution, Ringer 1.000 cc.
- Oxitocin 5 UI (ampullas)
- Instrumental box for scraping

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Information for the patient about
UNVOIDABLE ABORTION

What kind of problem do I have?

Problem explanation

At this moment, due to contractions and bleeding that you are having, your pregnancy does not have the possibilities to continue. We can observe that your baby is coming out.

What can happen to me and my baby?

Problem consequences:

If this problem is not controlled by a health professional, you will suffer a severe hemorrhage anemia and pain in your lower abdomen.

What are they going to do or give me?

Treatment/ proceeding:

For level I

- We'll take your blood pressure, temperature and pulse.
- We'll do a vaginal exam to determine if you are at the beginning or at the end of the unavoidable abortion, so that way we make sure that nothing remains inside and to avoid hemorrhage.
- We'll put an intravenous fluids up your arm to administer some medicines or, if necessary, we'll refer you to a hospital.

For level II (Give the information of level I and add this one)

- If there is any doubt that you have remainders in your matrix, we'll clean it up with anesthesia, that way you'll feel more comfortable
- We'll do a urine and a blood test for a blood group.
- If necessary you will get a blood transfusion.

SEPTIC ABORTION

Definition

It is the partial retention in the uterine cavity of placenta or fetal infected remainders before a fetal viability.

Produces fever, hipogastric pain, seropurulent secretion and compromises general condition.

In general it evolves towards septic shock*.

Risk factors

- Ovular rupture.
- Cervical Incompetence
- Traumatisms
- Unwanted pregnancies
- History of abortive maneuvers
- Incomplete abortion
- Latrogeny of medicines, ingesting drugs, mates.

- * Septic shock: Acute circulatory insufficiency produced by an endotoxin bacteria.

Maternal Risks

Immediate

- Infections: endometritis, anexitis and sepsis
- Hemorrhage, anemia and shock**
- Tissue and organ pelvic lesions (tears and perforation)
- Embolia
- Disseminated intravascular coagulation
- Maternal death

Remote

- Sterility
- Menstrual alterations
- Different levels of placental accretism
- Previous placenta
- Uterine rupture in later deliveries

** Hemorrhagic Shock: Acute circulatory failure produced by genital blood loss of more than 40% of the volemia. The signs and symptoms are: hypotension, dry and pale skin, oliguria, loss of consciousness.

Diferencial diagnosis

- Incomplete infected abortion
- Genital pelviperitonitis
- Peritonitis by visceral pathology

Clinical Signs

Acute phase

- Pale, anemic, febrile woman
- Breathing difficulty
- Hot and humid skin, with profuse sweating.
- Accelerated pulse (more than 90 a minute)

Serious phase

- Anemia, afebrile, cyanotic (purple)
- Fast and superficial breathing
- Low blood pressure, cold skin
- Imperceptible pulse (less than 80 a minute)

-- Vaginal examination:

- . Hematic flow really purulent and foul- smelling that comes trough vaginal passage, generally in presence of necrotisular material.
- . Signs of self-induced abortion: cervical or vaginal tear, foreign bodies in vagina or cervix uteri and even a perforated uterus

-- Vaginal exam:

- . Soft uterus volume enlarge, really painful to movement. Attachments enlarged.
- . Cervix uteri, cervix orifices semi-open.
- . Douglas'sack could be occupied and very sensitive.

-- Abdominal palpation:

- . Acute abdomen and/or pelvintonitis (the abdomen becomes hard and the patient has not defecated in many days or she is with diarrhea)

Management

- She is a patient of **high risk** give her orientation, avoid judging her.
- Explain what is happening, what are the risks that she has and the proceedings that is necessary to go through.
- Control her vital signs constantly.
- Validate antitetanic prophylaxis.
- Semi-sitting position
- Lower temperature by physical means.

HEALTH POSTS

Treatment

- If you can confirm the diagnosis:
 - . Intravenous with butterfly 19 in the arm and install physiological saline solution or ringer 1.0000cc 10 drops a minute.
 - . Sodid Penicilin 6.000.000 international unities i.m every 6 hours.
 - . Gentamicine 80 mgr i.m. every 8 hours.
 - . Methylergovin 0.2 mgr i.m. every 8 hours.
- Refer her to level II or III according to the available resource in each of them.

Referral criteria

- If there is any doubt or confirmation of this complication refer her as soon as possible to level II or level III.

HEALTH CENTERS

Treatment

- If you can confirm the diagnosis:
 - . Indicate the same treatment defined for the Health Post, besides you can associate Ampicilin one gram v.o or i.v every four hours.
 - . Dextrose 500 cc to 5 % plus 10 unities of oxitocin 10 drops minute.
 - . Refer her to level II o III according to avalaible resources.

Referral criteria

- If you have any doubt or confirmation of this complication you should refer her as soon as posible to level II or III, initiating treatment, if posible.

DISTRIC HOSPITAL

Laboratory tests

- Hemogram and Sediment rate
- Time for clotting and bleeding
- A general urine test

Management

- Control of vital signs every hour. Space them according to development
- Blood transfusion, if necessary
- Hidric equilibrium with parenteral hidrosal solutions:
Ringer 1.000 10 drops per minute and/or physiological 1.000 cc 10 drops per minute.
- Folley catheter. Diuresis control no les of 30 ml/hour.
- Humid Oxigen 4 litters per minute.

Treatment

- Sodic penicilin 6.000.000 international unities i.v. every 6 hours
- Gentamicin 80 mgrs i.m. every 8 hours.
- It is posible to associate ampicilin 1g v.o. or i.v. every 4 hours
- Methylergonovin 0,2 mg i.m. every 8 hours.
- Dextrose 500 c.c to 5% plus 10 unities of oxitocin to 10 drops per minute.
- Uterine scrapping after 24 hours with afebrile patients or before in case of important hemorrhage.

Referral criteria

- If she shows acute general signs, no answer to medical treatment, pelviperitonitis or peritonitis (complicated septic abortion) she should be refer immediately to care level II.
- If you do not have the resources to follow the management and treatment described.

Resources

- Physiological salt solution / Ringer / Dextrose.
- Sodic penicilin 600.000 u.
- Gentamicin 80 ml.
- Methylergonovine 0,2 mg.
- Ampicilin 500 mg.
- Oxitocin 5 u.
- Oxigen
- Folley catheter
- Scraping instrumental kit

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**Information for the patient about
SEPTIC ABORTION**

WHAT PROBLEM DO I HAVE?

Problem explanation

Your pregnancy is interrupted, besides we can observe that you have an infection in your matrix (in their parts) because your bursa broke. Maybe It was exposed to non-higienic conditions.

WHAT CAN HAPPEN TO ME AND MY BABY?

Problem consequences:

This situation has lead to an infection, that is very dangerous and it can get complicated causing you strong pain in your matrix (parts) and severe hemorrhage. If we do not treat this immediately, you can have an attack and put your life at risk.

WHAT ARE THEY GOING TO DO OR GIVE TO ME?

Treatment/procedure:

For level I

- We'll take your blood pressure, temperature and pulse.
- We'll give you intravenous antibiotics in your arm.
- We'll send you to a hospital immediately.

For level II (Give her the information of level I and add this one)

- We'll take your blood pressure temperature and pulse.
- We'll give you intravenous salt solution to hidrate you.
- We'll also give you intravenous antibiotics that will help to stop the infection.
- We'll do a blood an urine test and determine your blood group.
- If necessary we'll put you a sound to facilitate the urine to come out.
- When the fever goes down, we'll clean your matrix up (parts). We will use anesthesia.
- If necessary We'll give you blood and oxigen.

ECTOPIC PREGNANCY

Definition

The implantation of conception product or egg out of uterine cavity, that can produce internal hemorrhage with severe risk for the life of the mother. Usually this implantation does not exceeds 8 weeks of gestation.

Frequently it's located in the tube (tubal), the most frequent complications are: tube rupture, hemorrhage, shock and maternal death.

Risk Factors

- Background of pelvic inflammatory disease: puerperal, tuberculosis, chlamydia, gonorrhoea.
- Peritonitis.
- Previous ectopic pregnancy.
- Endometritis.

Clinical Signs

- It shows symptoms when it is complicated (when there is tube rupture).

TUBAL PREGNANCY NON-COMPLICATED OR NOT BROKEN

- There is no specific symptomatology.
- Menstrual delay.
- Symptoms and signs of pregnancy, nausea and vomit.
- S Scarce and dark genital hemorrhage (dark brown).
- Discrete and tolerant pain in hypogastrium or iliac fossae.
- During vaginal exam:

. Uterus smaller than gestational age.

. Adnexa: a mass can be felt in one of them, sensitive to palpation.

BROKEN OR COMPLICATED TUBAL PREGNANCY:

- Symptomatic. Compromise of general state.
- Amenorrhea
- Pregnancy signs
- Rough and sudden apparition of pain in hypogastric area associated to signs of severe anemia (due to hemorrhage in peritoneum)
- Dizziness, migraine, sweat, lipotomy. (faint)
- Pale skin and mucous. Accelerated pulse, filiform.
- Gradual hypotension.
- Shock.
- Abdomen with signs of muscular resistance. (peritoneal irritation)
- Pelvic tenderness to touch (could be more intense on one side)
- Abdomen with signs of muscular resistance.
- During vaginal exam: uterus and adnexa difficult to touch, painful at motion, specially at the bottom of the posterior sac. It convex shape can be felt.
- The extraction of dark blood that cannot coagulate through puncture of posterior sac, confirms the diagnosis.
- It might be scarce vaginal bleeding, without clots and elimination of deciduous

Management

- It is surgical in both ways (laparotomy).
- Give counselling, to her and her family. Explain the risks
- Identify blood donors urgently, specially if it is broken.
- Control vital signs.

HEALTH POST

Laboratory tests

- If possible classify blood type and Rh.

Treatment

- Catheterize intravenously with a butterfly needle No 19 and administer Ringer solution 1000 cc continuous dripping (gush) and physiological 1.000 cc, the same.
- Refer urgently in Trendelenburg position, left side, keep her warm and send her with a companion (never live her alone).

Referral criteria

- If there is any doubt or confirmation of ectopic pregnancy (complicated or not), the woman should be refer to level II or III immediately. It is a serious complication.

HEALTH CENTER

Laboratory tests

- If possible classify blood type and Rh.

Management

- Confirm diagnosis.
- Vaginal exam:
 - . Pregnancy signs, motion tenderness, specially at the back of the posterior sac and in the affected tube, where a mass can be felt.
 - . The major the intraperitoneal hemorrhage is (does not come out thorough the vagina) the more intense and permanent the abdominal pain is. The situation quickly worsens with hypovolemic shock.
 - . Same treatment as described for the Health Post.

Referral criteria

- If an ectopic pregnancy is suspected or confirm (complicated or not) the woman should be referred to level II or III of care immediately. This a serious complication.

DISTRICT HOSPITAL**Laboratory tests**

- Hemogram with sedimentation rate
- Blood type and Rh
- Immunological or biological pregnancy tests

Additional tests

- Depth puncture of the posterior vaginal sac with long needle No. 18.
- Ectopic complicated pregnancy is a surgical emergency.

Management

- Watch her vital signs permanently, specially her blood pressure.
- Prepare her immediately for urgent surgery
- Install Folley sound

Medical Treatment

- Catheterize vein with a butterfly needle N° 19 (or "cavafix" or venocath).
- Ringer solution 1000 cc at continuous drip (gush).
- Physiological 1.000 cc, the same
- If the hypotension gets serious, blood or plasma transfusion.

Surgical treatment

- Immediate laparotomy.
- Salpingectomy trying to preserve ovary.
- Evaluate the possibility of preservative surgery of tube, depending on age, parity, desire of more children, location and complications existent, condition of the other tube.

Referral Criteria

- If there is doubt in the diagnosis.
- If available resources are insufficient for the described management.
- If facing any complication that requires management and treatment in level III.

Resources

- Laparotomy equipment/salpingectomy
- Ringer Solution/ physiological
- Douglas puncture equipment
- Folley catheter/ collecting bag
- Ileocolic
- Needles/ butterflies

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Information for the patient about
ECTOPIC PREGNANCY

What problem do I have?

Problem explanation:

It is a pregnancy outside the matrix and it is located in the Fallopian tubes, that join the matrix with the ovaries; or in the abdominal cavity. In general this type of pregnancy does not come to term, and to avoid major problems it is necessary to operate. That is why you have hemorrhage and pain.

What can happen to me and my baby?

Problem consequences:

If the clinical and laboratory diagnosis confirm that you have an ectopic pregnancy, it will be necessary to operate you immediately to avoid a severe hemorrhage and complicate your situation.

What are they going to do or give me?

Treatment/procedure:

For level I

- If possible, we'll classify your blood type and Rh.
- We'll put a I.V. solution to be able to administer some medicines if necessary.
- We'll send you to a hospital to receive proper treatment.

For level II (Give the information of level I and add this one)

- We'll do some blood tests.
- We'll control your pulse and blood pressure.
- We'll put a I.V. solution to give you some medicines if necessary.
- If you have lost a lot of blood, we'll give you blood from another person (blood transfusion) and/or solution and we'll have to perform an emergency surgery. It will be necessary to remove your tube, where the baby is, because if the baby keeps growing the tube will broke and the bleeding will endange your life.

MOLAR PREGNANCY

Definition

It is an uncommon complication of gestation, characterized by the degeneration of the trophoblastic tissue, that carries on usually without embryonal growth. It can degenerate in carcinoma (cancer).

Risk Factors

- Malnutrition.
- Low socioeconomic conditions.
- Younger than 18 years or older than 40

Maternal Risks

- Anemia
- Shock
- Evolution to choriocarcinoma.
- Death.

Clinical Signs

- Increased nausea and vomits.
- Weight loss. Hyperemesis gravidic
- Genital hemorrhage with bright, red blood, precocious, frequent and silent.
- Precocious apparition of hypertension induced by pregnancy.
- Increased volume of uterus that does not correspond to the menstrual delay or amenorrhea.
- Soft and depressable uterus.
- Fetal parts can't be felt nor the fetal heart beat.
- Its development usually reaches 24 weeks.
- Sometimes there is blood elimination via vagina with vesicles resembling fish eggs or grape seeds.

Differential diagnosis

- Abortion.
- Previous placenta.

Management

- Explain the patient her condition, the risks and the procedures she will undergo.
- Control vital signs

HEALTH POST AND CENTER**Treatment**

- Catheterize vein with butterfly needle N° 19 in forearm, with 1.000 cc Ringer, 20 drops a minute.

Referral criteria

- If there is any doubt or confirmation, the patient should be referred to level II

DISTRICT HOSPITAL**Laboratory tests**

- Hemogram
- Blood type and Rh.
- Qualitative dosage of chorionic gonadotropins

Treatment

- If patient presents an hemorrhage with no molar abortion and the uterus is less than 15 cm:
 - . Catheterize vein with butterfly needle No 19 in forearm
 - . Ringer 1.000 cc, 20 drops per minute.
 - . Control blood pressure.
 - . Place lamina stalk.
 - 0.5 mg. Prostaglandin misoprostol in anterior labium of cervix.

- Remove lamina stalk 8 hours after placing it.
 - Start inductive conduct with 40 units of oxytocin and increase dose according to results.
- When molar abortion have produced:
 - . Perform instrumental uterine scraping.
 - . Prescribe 0.2 mg. methylergonovine i.m.
 - . Continue with 5% Dextrose solution plus 40 units oxytocin, 40 drops per minute.
 - . Blood transfusion if available.
 - . Check for genital hemorrhage.
 - If patient has had a molar abortion and uterus is less than 15 cm. catheterize vein with butterfly needle N° 19 in forearm and administer:
 - 500 c.c. Dextrose to 5% plus 40 u. Oxytocin, 40 drops per minute.
 - 0.2 mg. methylegonovine i.m. only.
 - 1.000 c.c. Ringer continuous drip if there is hemorrhage.
 - Perform instrumental uterine scraping.
 - Follow up and control (determine quantitative chorionic gonadotropin)

Referral Criteria

- Patient with uterus bigger than 15 cm.
- Uterine hemorrhage persistent 48 hours after the instrumental uterine pe scraping, before the contingency of an invading mole or chorioidenoma destruens.
- If resources are not available for early detection of persistence or relapse of the illness.

SUPPLIES

- Ringer solution/Dextrose
- Lamina stalk
- Prostaglandin
- Oxytocin 5 UI.
- Methylergonovine 0,2 mg
- Instrumental scraping kit
- Venoclysis

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Information for the patient about MOLAR PREGNANCY

t

What problem do I have?

Problem explanation:

You have an alteration in the initial development of your pregnancy, and it won't continue on. This is why you have been feeling sick, with vomits and nausea, and you have lost weight, and/or you are bleeding a lot.

What can happen to me and my baby?

Problem consequences:

If this problem is not controlled by a health professional, you will suffer a severe hemorrhage and anemia.

What are they going to do or give me?

Treatment/procedure

For level I

- We'll take your blood pressure, temperature and pulse.
- We'll perform a vaginal exam to confirm your problem.
- We'll put an I.V. solution to give you some medicines and we'll send you to a hospital if necessary.

For level II (Give the information of level I and add this one)

- We'll do some blood tests .
- We'll do a cleaning with anesthesia so you won't feel anything.
- If necessary we'll do a blood transfusion.
- We'll ask you to come back soon for an appointment; it is necessary for your control.

PREGNANCY HEMORRHAGES
(2ND. AND 3RD. QUARTER)

PREVIOUS PLACENTA

Definition

Abnormal implantation of placenta in the inferior uterine segment and it can occlude partial or completely the internal cervical orifice.

During the last weeks of gestation, the segment contracts and dilates the cervix, placental villousities rip, and they separate from the uterine wall and the uterine cavities are exposed in the implantation site of the placenta.

Classification

According to its position:

- Complete previous placenta, total or central: Placenta covers totally the internal orifice when the cervix is completely dilated.
- Previous partial placenta: a small part of the placenta covers the internal orifice.
- Low or marginal previous placenta: the placental edge is found joined very close to the internal orifice, but it does not cover it.

Risk Factors

- Multipara.
- History of cesarean or other uterine surgery.
- Iterative cesarean sections.
- Induced abortions.
- Background of urinary infections.
- Multiple pregnancy.
- History of previous placenta.

Maternal and Fetal Risks

- Hemorrhage.
- Hypovolemic shock.
- Maternal and fetal death.

Clinical Signs

- Metrorrhagia of the last quarter, red blood and sparkling without any evident cause, of sudden appearance (usually when resting). It tends to appear and disappear spontaneously, with a scarce first stage and the next ones more profuse.
- It is painless. Normal uterine consistence (there are not uterine contractions)
- Hypovolemic shock in proportion to the intensity of hemorrhage.
- Secondary anemia.
- Fetal cardiac frequency variable.
- Associated with dystocial presentations, being the transverse one of the most frequent.
- There is the possibility of fetal placentarian union (fetal suffering, retardation in the intrauterine growth).

Differential Diagnosis

- Premature detachment of normoinserted placenta.
- Cervix and vagina bloody lesions.
- Placental anomalies.
- Uterine rupture.

General Management

- If the diagnosis is confirmed (clinical signs present), the patient should remain hospitalized until the delivery.
- Explain the patient what she has, the risks, and what they are going to do to her.

- Place the pregnant woman in the modified Trendelenburg position (elevating feet and head 20 to 30 degrees)
- Control vital signs.
- Assess respiratory frequency.
- Assess paleness, cyanosis, coldness and skin humidity.
- Try to quantify blood loss and indicate the patient to tell when she feels any liquid coming from the vulva. Observe the perineal towel frequently.
- Assess fetal presentation and position. Assess fetal cardiac frequency.
- Assess characteristics of uterine contraction.
- Do not perform vaginal exam or place enema.
- Identify blood donors.
- Watch over signs and symptoms of intravascular disseminated clotting (IDC). hemorrhages in places of injections, epistaxis, bleeding gums, presence of purpura and petechia in the skin.
- If you are referring make sure that the patient goes with somebody, warm, and in the modified Trendelenburg position.

HEALTH AND POST CENTER

Laboratory tests

- Blood group classification and Rh.
- Hemogram, hemoglobin or hematocrit.

Treatment

- If there are hypotension signs and she has important hemorrhage catheterize vein and put Ringer solution 1.000 cc (gush).
- If possible in this case administer humid oxygen 4 liters per minute.
- Refer her immediately

Referral criteria

- If there is any doubt or confirmation of previous placenta refer her to II or III level urgently, according to local resources available (for surgical care and newborn treatment).

HOSPITAL DISTRICT

Laboratory tests

- Blood group classification and Rh.
- Hemogram, hemoglobin or hematocrit.

Additional test

- Confirm the diagnosis by echographia or speculoscopy under strict security precautions and only in surgical ambience.

Management

- If the diagnosis is confirmed, the patient should remain hospitalized until delivery, independently if hemorrhage has stopped with bedrest.
- Control diuresis
- If the hemorrhage has stopped with rest and the patient refuses to continue in the hospital explain to her to come back immediately if it starts bleeding again.
- It is absolutely contraindicated a vaginal exam during pregnancy. Cotyledon movement can lead up to a fatal hemorrhage.
- During labor vaginal exam is allowed, only if the presentation is cephalic and if it is fixed or fitted, and if there are available resources for an emergency cesarean.
- Give orientation to the woman and relatives, explain risks and procedures, answer any questions that they might ask.

Treatment

- Without hemorrhage and without labor, and 36 weeks before:
 - Indicate absolute bedrest in lateral left decubitus. In occasions Trendelenburg position until assessment surgical interruption.

- Assess and do hemodynamic correction (fluids, blood transfusion).
- Control vital signs and cardiac fetal beatings frequently.
- Stimulate pulmonary maturation according to proposed outline with dexamethasone or betamethasone (See protocol on premature membrane rupture.)
- If you have labor and/or hemorrhage at any gestational age:
 - Prepare immediately for surgery.
 - Catheterize vein with butterfly No 19 in forearm.
 - Administer Ringer solution 1.000 cci.v. 10 drops per minute
 - Control vital signs and fetal cardiac beatings permanently.

Considerations

- In low insertion with a 36 week pregnancy, and only if important hemorrhage does not exist or alteration of the fetal well being, you can try delivery via vaginal, looked after in the operating room prepared for a caesarean (patient with peridural anesthesia).
- In case of caesarean try to make an incision that does not damage the placenta, Incision Kerr type if there isn't labor, close pregnancy at term with posterior placenta.
- The cases of placentas with previous insertions, They always be managed with incisions corporal segment or corporals.

Complications

- With the possibility to coexist with accreta placenta, you should have everything ready for emergency hysterectomy.
- In uterine atonia, administer oxytocin via parental or direct myometrial infiltration.
- In incoercible hemorrhage of placenta, total hysterectomy is recommended.

Referral criteria

- If there is a doubt in the diagnosis and complementary resources are not available.
- If the available resources are insufficient to perform the described management.

Resources

- Ringer solution 1.000 cc.
- Oxygen
- Butterfly needle No 19.
- Caesarean box/ hysterectomy
- Equipment and input for epidural

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Information for the patient about

PREVIOUS PLACENTA

WHAT KIND OF PROBLEM DO I HAVE?

Problem explanation:

Normally the placenta should be in the fond of the matrix; but in your case is positioned very close to your vagina, the place where the baby is born. This situation is producing bleeding, that can be very serious an endanger your life and the baby's life too.

WHAT CAN HAPPEN TO ME AND MY BABY?

Problem consequences:

Your problem leads to severe bleeding, and this will weaken you, causing anemia. Besides anemia, does not allow that your baby has normal feeding.

WHAT ARE THEY GOING TO DO OR GIVE?

Treatment/procedure:

For level I

- We'll control your blood pressure and pulse.
- We'll perform a complete general exam to you and your baby.
- We'll take a blood test that will determine your blood type and Rh factor
- If necessary we'll put a solution in the vein of your arm to give you some medications.
- It is important that you get a lot of rest and do not make any physical exertion. You should not run; you can't pick your other children up or lift heavy things until your baby is big enough for birth.

For level II (Give the information of level I and add this one)

- If possible we'll do ultrasound and a gynecologic exam in a complete disinfected environment. (NOTE: The health professional should explain to her about the exam, telling her what she is going to feel and asking her how she is.)
- If the diagnosis confirms previous placenta, we'll hospitalize you until the delivery

-- Besides, if you lost a lot of blood, we'll give you blood from another person or a solution in the vein of your arm so you will feel better.

-- Depending on the seriousness of the problem, it will be necessary to perform surgery that is called caesarean.

PREMATURE DETACHMENT OF NORMOINSERTED PLACENTA
(ABRUPTIO PLACENTAE)

Definition

It is the partial or total detachment of the placenta normally implanted in the uterine wall during the last quarter of pregnancy or labor.

Risk Factors

- Hypertension induced by pregnancy (pre-eclampsia/eclampsia).
- Primiparity.
- History of placenta detachment.
- Polyhydramnios.
- Short umbilical cord.
- External trauma, usually abdominal.
- Sudden uterine decompression.
- Maternal malnutrition

Fetal-Maternal Risks

- Hemorrhage and shock.
- Acute fetal suffering and/or fetal death.
- Clotting disorders.
- Maternal death.

Clinical Signs

- Quick and sudden appearance of abdominal (uterine) pain severe and persistent.
- Small amount or moderate genital hemorrhage of dark red color and clots.
- Gradual Hypotension and shock.

- Uterine hypertonia
- Difficulty to auscultate fetal heart rate
- Uterine increase size
- Great difficulty to recognize fetal parts
- Vaginal Exam:
 - If the membranes are ruptured expelling of blood mixed with amniotic liquid occurs.
 - If the membranes are intact genital hemorrhage is of less quantity.

Differential diagnosis

- Previous placenta.
- Uterine rupture.

Management

- If diagnosis is confirmed she should be hospitalized for cesarean.
- Explain the patient and her relatives about the risks and what they are going to do.
- Place the patient in the modified Trendelenburg position (raise her feet and her head 20 to 30 degrees).
- Control vital signs.
- Assess fetal cardiac rate and uterine activity if possible.
- Assess shock signs Hypotension, tachycardia, dizziness, shortness of breath, confusion, skin characteristics.
- Identify possible blood donors.
- Watch out for signs and symptoms of intravascular disseminated clotting (IDC) such as hemorrhages in injection sites, epistaxis, bleeding gums, presence of purpura and petechia in the skin.
- If the patient is referred she should go with somebody, in the Trendelenburg modified position, in left lateral decubitus.

HEALTH AND POST CENTER**Laboratory tests**

- Blood type classification and Rh.
- Hemogram, hemoglobin, or hematocrit.

Treatment

- Catheterize vein with butterfly needle No 19 in forearm, administer Ringer lactate solution 1.000 cc 40 drops per minute and after that physiological saline solution 1.000 cc tp 40 drops/minute, or continuous dripping (gush).
- Administer humid oxygen 4 liters per minute.
- Refer her immediately.

Referral criteria

- If there is any doubt or confirmation she should be referred to level II. It is an extreme emergency condition.

DISTRICT HOSPITAL**Laboratory exams**

- Hemogram
- Blood type and Rh
- Bleeding and clotting tests
- Clot retraction in tube.

Management and treatment

- Immediate hospitalization.
- Explain the patient and relatives about the risks and what they have to do.
- If the diagnosis is confirmed with live fetus, immediate cesarean.
 - Catheterize vein with butterfly needle No 19 in the forearm and administer Ringer lactate solution 1.000 cc 40 drops per minute and after that physiological solution 1.000 cc, 40 drops/minute (or continuous dripping when hypotension is present).

- Humid oxygen 4 liters per minute.
- Control vital signs constantly, specially blood pressure.
- Control fetal heart rate.
- Fresh blood transfusion in severe hypotension or shock signs.
- Install Folley catheter.
- Watch for diuresis (more than 35 cc per hour).
- If the fetus is alive and there is no bleeding:
 - Amniotome independently of cervical dilatation.
 - Control of cervical dilatation and evolution of labor
 - If she is multipara with difused cervix and more than 6 cm of dilatation: Dextrose 500 cc to 5% plus 5 unities of oxytocin, answer dose.
 - If labor evolution is not effective and severe fetal suffering is present: cesarean.
- Presence of active genital hemorrhage, gradual hypotension, shock imminence or danger of fetal death: cesarean
- If the fetus is death and there is no compromise of the maternal general condition:
 - Perform amniotome.
 - If there is not evolution in labor: cesarean
- If in post-surgery there is evidence of uterine hypotonia or atony administer:
 - Dextrose 500 cc to 5% plus 40 Uof oxytocin 40 drops per minute.
 - Methylergonovine 0,2 mg i.m. every/8 hr.
 - Fresh blood if possible.

Referral Criteria

- If the resource is insufficient for the described management.
- If there is renal complication

- Patients in the post- surgery show signs of continuous hemorrhage, compatible with disseminated intravascular clotting refer her to level III, with Ringer solution 1.000 cc continuous dripping and after physiological solution 1000 cc.

Resources

- Ringer Solutions/ Dextrose / Physiological
- Ocitoxin 5 Ul.
- Methylergonovine 0,2 mg.
- Oxygen.
- Phleboclysis
- Butterfly needle No 19.
- Folley Catheter/collecting bag
- Cesarean kit

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Information for the patient about
PREMATURE DETACHMENT OF NORMOINSERTED PLACENTA

WHAT PROBLEM DO I HAVE?

Problem explanation:

The problem that you have is that your placenta is separated from your matrix before your baby was born. This is causing you great abdominal pain, hemorrhage and respiratory problems to your baby.

WHAT CAN HAPPEN TO ME AND MY BABY?

Problem consequences:

If the complication is not treated your life and the baby's is at risk.

If this problem is not treated immediately, you can lose a lot of blood and weaken you to the point you will lose consciousness and faint. Your baby can suffocate inside your matrix. If time goes by, we won't solve this serious complication.

WHAT ARE THEY GOING TO DO OR GIVE ME?

Treatment/procedure:

For level I

- We'll take your blood pressure, temperature and pulse.
- We'll perform blood exams and classify your blood type and Rh factor.
- We'll put a solution in the vein of your arm to hydrate you and give you medications. If necessary, we'll send you to a hospital.

For level II (Give the information of level I and add this one)

- If your baby is not suffering inside your matrix, and we observe that you do not show hemorrhage we'll help you in your normal delivery.
- We'll have strict control of your and your baby's health; and if a problem would emerge, we'll proceed to perform cesarean surgery. (NOTE: refer to cesarean protocol.)
- If necessary we'll give you some blood.

UTERINE RUPTURE

Definition

It is produced as a consequence of a supracervical rip of the uterine body, previously intact or of an old uterine scar.

It often happens in the third quarter of pregnancy or in the delivery, It is the most dangerous complication of this period.

Classification

- Complete: When it happens through the three muscular layers.
- Incomplete: when it happens through the endometrium and myometrium.

Risk Factors

- Scars from uterine surgeries.
- Uterine Malformations
- Multiparity
- Maternal pelvis tightness or fetal-pelvic disproportion.
- Infectious process in the uterus.
- Repeated scrapping.
- Extended and prolonged labor.
- Dystocia presentations
- Taking herbs for expulsion or ergonovins
- Medications letrogenia, bad management of induction.
- Obstetric traumatism (Kristeller maneuver, internal version, external, forceps, manual extraction of placenta)

Fetal and maternal risks.

- Acute abdomen (internal hemorrhage)
- Hypovolemic shock
- Maternal and fetal death

Clinical Signs

Rupture imminence

- Anxiety and uneasiness for the intense pain and uterine hypertonia.
- Uterine segment strained, painful.
- Presence of anomaly contraction in uterus, Bandl ring.
- Distorted uterus, in eight or sand clock.
- Usually hematuria.
- Vaginal exam, edematous cervix, labor or delivery signs are not found.
- Alterations of fetal heart rate.

Consummated uterine rupture

- Brusque disappearance of the uterine contractility.
- Sudden pain, in the abdominal region spontaneous and intense.
- The majority of pregnant women show restlessness, tachycardia, and anxiety.
- Acute fetal suffering or brusque disappearance of fetal heart rate.
- Palpable fetal parts in abdominal cavity.
- Vaginal Exam
 - Presentation rises you can't touch it , rises to a cavity.
 - Edematous cervix.
- Vaginal examination of uterine cavity confirms rupture.
- Genital hemorrhage variable usually intense..
- Acute anemia signs, accentuated hypotension, imperceptible tachycardia, dizziness, sweatness, and loss of consciousness.
- Shock.

Differential diagnosis

- Premature detachment of the normoinfert placenta.
- Previous placenta.
- Traumatic injuries of vagina and cervix.

Management

- Explain to the woman and her relatives the risks and procedures to follow.
- Install Folley catheter.
- Watch for diuresis.
- Control vital signs constantly.
- Control fetal cardiac rate.
- Identify blood donors.
- If you have to refer, do it immediately. Patient should be accompanied, warm in the Trendelenburg position and with the treatment in progress.

Preventive treatment

- During pregnancy identify patients with risk factors. Warn them about risks and recommend institutional and professional delivery.
- Refer pregnant women to level II with:
 - Fetalpelvic disproportion.
 - Previous cesarean.

POST AND HEALTH CENTER**Treatment**

- Catheterize vein with butterfly needle No 19 in forearm, administer Ringer solution 1.000 cc continuous dripping (gush) and after physiological saline solution 1.000 cc, same way.
- Refer immediately.

Referral Criteria

- If there is any doubt or rupture imminence, refer the woman promptly to level II or III. It is a serious situation.

DISTRICT HOSPITAL

Laboratory exams

- Hemogram.
- Blood type and Rh.
- Clotting and bleeding tests.
- Clotting retraction.

Management and treatment

- Fresh blood transfusion in severe hypotension, shock signs or hysterectomy.
- Immediate cesarean (shock should not postpone surgery).
- Humid oxygen 4 liters per minute.
- In case of a young woman and without children, assess the possibility to keep the uterus according to depth and extension of rupture.
- Before major retroperitoneal hematoma or incoercible bleeding, ligature of hypogastric arteries.

Referral criteria

- Before maternal or perinatal complications that require for its management a more complex level care.

Resources

- Ringer solution/ Physiological.
- Oxygen.
- Folley catheter /collecting bag.
- Phleboclysis.
- Butterfly needle No 19.
- Cesarean kit/hysterectomy.

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Information for the patient about
UTERINE RUPTURE

WHAT PROBLEM DO I HAVE?

Problem explanation

You have a very serious complication. Your matrix suffer a rip. This is causing you pain and makes you feel anxious and sad.

WHAT CAN HAPPEN TO ME AND MY BABY?

As you can see, this complication is producing a severe hemorrhage that can only be stopped with surgery. This should be done to save the baby's life and yours.

WHAT THEY ARE GOING TO DO OR GIVE?

Treatment/ procedure:

For level I

- We'll take your blood pressure, temperature and pulse and we'll control the heart beat rate of your baby before surgery.
- We'll put a solution in the vein of your arm to give you some medications and, if necessary, we'll send you to a hospital.

For level II (Give information of level I and add this one)

- We'll perform a blood test, classify your blood type and Rh factor
- We'll prepare your abdomen wash it with warm water, soap and disinfectant.
- We'll put some disinfectant liquid in your back, you will feel this a little cold.
- We'll also put anesthesia in your back so you won't feel any pain and you can be awake when your baby is born.
- If necessary we'll give you some blood.
- We'll perform surgery under your belly bottom.

DELIVERY

DELIVERY CARE

LOW RISK

Definition

Low risk delivery is the physiological process in which the fetus is expelled by uterine contractions. The strength of the uterine muscle makes the fetus pass through the canal against the resistance of soft tissues, muscles and maternal pelvis. Consider a low risk obstetric-perinatal pregnancy at term.

Tasks

- Delivery care is described according to its development:
 - When the patient starts labor.
 - During dilatation period.
 - During expulsion period
 - In childbirth.
 - In the immediate puerperium
 - In the mediate puerperium
- Explain the pregnant woman and her relatives each procedure you will be doing and the findings or risks that you will diagnose.

PATIENT CARE INITIATING LABOR

Objective

- Detect risks and determine the best conditions for the patient initiating labor favoring an eutocia delivery, and a healthy mother and child.

Actions

- Psychological support and advise are very important from the moment the patient arrives to the health place.
- Go through Perinatal Clinical History and Perinatal Card. If the patient did not have prenatal control, assess the necessity to ask for laboratory exams (urine, hemoglobin, VDRL, blood type and Rh).

- *Perform a careful anamnesis asking about:*
 - Probable date of delivery.
 - When did the contractions begin?
 - Membranes rupture.
 - Bleeding.
 - Perception of fetal movements
- *General clinical examination (skin color, mucosa, Hydration, general appearance).*
- *Take blood pressure according to technique.*
 - *If hypertension is found see protocol on pregnancy induced hypertension.*
 - *If hypotension is found, it should be associated to a shock, which is usually secondary to a hemorrhage.*
 - *Presence of tachycardia and temperature rising is associated with an infection risk (See protocol about obstetric infection).*
- *Perform obstetric exam:*
 - *Explain the patient clearly what you are going to do.*
 - *Your hands should be warm.*
 - *If she has history of previous cesarean, check scar condition.*
 - *Abdominal Palpation:*
 - . *Perform Leopold maneuvers to determine situation and fetal presentation.*
 - . *Estimate fetal weight*
 - . *Number of fetus.*
 - . *Amniotic liquid quantity.*
 - . *Fitted level.*
 - . *Assess pelvic viability for fetal size (fetopelvic proportion).*
 - . *Ausculte fetal heart rate according to technique.*

- Measure uterine height according to technique.
 - . Relate gestational age with uterine height and assess fetal growth, disregard delayed intrauterine growth (transverse position alters this interpretation).
 - . If any doubt of delayed intrauterine growth (RCIU). multiple pregnancy or abnormal presentation, determine resolute capacity available to assess causes and management on them. and, if it is insufficient refer to the most complex level.
- *Control and assessment of uterine contractions:*
 - If there is hyperdynamic:
 - Left lateral decubitus.
 - Uterus inhibition with sedative.
 - Control the uterine dynamic.
 - Oxygen 3 liters per minute via mask.
 - Control fetal cardiac rate.
 - Identify cause; if goes on, assess resolute capacity for its management; if it is insufficient, refer to the most complex level,
- Perform vaginal exam according to technique:
 - Vaginal exam very delicate and only if:
 - . There is no bleeding.
 - . Intact membranes.
 - . Patient in labor.
 - . In ruptured membranes, doubt of prolapse cord.
- If you find one or more of the following situations, assess if there is resolute capacity for its management, if it is insufficient refer to the most complex level.
 - Detect any high risk factor.
 - Pregnancy less than 37 weeks.
 - Abnormal fetal presentation.

- Dystocia position.
- Tight and asymmetric pelvic.
- Evidence or doubt of fetal-pelvic disproportion.
- Premature rupture of the membranes more than 6 hours or infection signs.
- Vaginal walls or obstacles in the labor canal.
- Prolapse cord.
- *Determine the best opportunity to hospitalize her*
 - . If it is preterm or established labor, assess if you have the conditions for its management; if they are insufficient, refer to the most complex level.
 - . If it is at term, establish if labor started:
 - . If you verify 2 or more uterine contractions in 10 minutes in regular periods (during the last 60 minutes).
 - . If a cervix dilation shows equal or more than 2 cm (with soft cervix in the process of effacement and centering)
 - . Assess the conditions geographic accessibility. Estimate the risks to send her home.
- *If necessary, observe dilation progress and dynamic for 2 hours to confirm diagnosis.*

- *Consider that primiparas come soon with false labor, avoid hospitalization and unnecessary expenses to the patient.*
- Prepare patient for delivery:
 - . Preparing the patient is very important for:
 - . The health personnel should look for a balance between the proper hygienic conditions and what the pregnant woman prefers according to culture.
 - . Make sure to respect the social and cultural values. This will help labor development more than the strict hygienic measures that you observe.
 - . Continuous guidance about the procedures you will perform and a trust environment will lead to a cooperation attitude between the patient and the health team.
 - . Encourage participation of the husband and other relatives to accompany the pregnant woman during delivery and labor.
 - . Encourage the patient to urinate and use the bathroom as needed.
 - . Perform or make sure abdominal perineal washing with luke warm water and soap (ask her if she wants to do it herself, and the directions). Trichotomy (genital shaving) is unnecessary, besides it increases infection risk.

CARE DURING THE DILATION PERIOD

Objective

- Care during dilatation tries to:
 - Promote the physiological development of labor.
 - Promote the active participation of the woman and her husband or the relatives accompanying her.
 - Identify early the appearance of risk factors
 - Achieve delivery in the best psychic and physic conditions maternal and fetal.

Actions

- Support the pregnant woman in the following aspects:
 - Identify her necessities, doubts, fears and guide the information based on them.
 - Know what position she prefers for her delivery and try to go along with her.
 - Encourage her *active participation* and her partner or family group accompanying her, making them participants in all the physiological modifications that occur. and asking from them continuous psychologic support for the patient
 - Stimulate the *ambulation* of the patient during dilatation period. If the mother chooses to stay in bed, it is preferable to go with the left lateral decubitus position to prevent maternal hypotension and fetal hypoxia (supine-hypotensive syndrome).
 - Give her plenty of liquids to drink, preferably with sugar to diminish dehydration risk, with the physical activity and hyperventilation, and to prevent neonatal secondary hypoglycemia.
 - Give her all the help to empty her bladder every 2 hours and eliminate excretions spontaneously according to her needs, pointing out that all this will make the delivery easier.
 - Information should be transmitted in a language according to the socio cultural characteristics of the pregnant woman and assuring the respect she deserves from the health team for her values and conditions.
- Assess dilatation progress and descensus of the presentation. Before perform it, explain the woman what you will be doing. Remember to perform the exam slowly and softly.
 - Assess cervical modifications with vaginal exams approximately every 3- 4 hours or more, that will depend of the uterine dynamic and parity.
 - If membranes are ruptured, avoid vaginal exams.
 - Amniotome is not an usual indicator in labor.
- Elaborate the partogram and the alert curves according to actual rules.

- If labor in progress is slower than the one expected according to the pregnant woman conditions (observed curve against the alert curve), identify cause, assess resolute capacity available to correct the anomaly and, if it is insufficient, refer her to the most complex level.
- Control vital signs (pulse, respiration, blood pressure, temperature every 4 hours.
- Auscultate fetal cardiac rate according to technique.
- Control and assess length, intensity, and frequency of the uterine contractions. Register them in the Partogram.

CARE DURING EXPULSION PERIOD

Objective

- Give your psychological and physically support to the pregnant woman in a suitable environment for a normal delivery and childbirth.

Actions

- Suitable temperature (25 Centigrades or +) in the operating room.
- If the pre-delivery room is separated from the delivery room move the patient: if she is primipara, when she has a complete dilatation; and if she is multipara, when she has 8 cm.
- Pregnant woman should try to push spontaneously, during this expulsion phase (when she feels the need to do it) Advise her to push with respirations and treat her nicely.
- Patient position:
 - Allow her to choose the position she feels comfortable with, considering customs and culture as well. If possible adapt gynecology measures to what she likes. You should avoid anyway the classical horizontal position with the legs hanging or tied at ankle level, specially if the delivery has a normal development.
 - The position can be chosen among:
 - . Semi-fowler with 120 degrees angle with their feet leaned.

- . Seated with an angle of 90 degrees.
- . Squatting position.
- . Semi-standing leaned on a table.
- . Kneeling down.
- Prepare instrumental, gloves and Sterile environment.
- Wash your hands carefully.
- Perform the perineum washing the pregnant woman with luke warm water that drips in the genital area and the major labium slightly semi-open.
- Amniotome:
 - If dilation is completed, presence of uterine contractions with the maternal push and descensus and rotation do not happen, perform amniotome after 30 minutes in primiparas and 15 minutes in multiparas. (Make sure that the head is engaged)
- Episiotomy:
 - It should not be a routine procedure.
 - Perform episiotomy only in patients that do not show elastic perineum and when there is a risk of tearing and/or fetal head compression. Before sectioning tissue, infiltrate 5 to 10 cc of anesthesia (Marvaine or Xilocain).
- Presentation detachment:
 - Control and watch for this presentation maintaining its flexion until the suboccipital- bregmatic circumference has passed the strained vulva.
 - Instruct the mother so she does not push at that moment.
 - Control detachment leaning left hand over the presentation so the deflection goes slowly, favoring the progressive distension of the tissues of the soft channel, avoiding tearing.
 - At the same time, protect the perineum, lean the right hand extended with an apposite over the perineum. Get close towards the median raphe puckering them to diminish tension. Ask the mother to push softly.

- Make sure the forehead, face and chin detachment is done very slowly.
- Observe if there is circular cord tight to the cervix; if so, reduce the slipping over the head. If it is too tight, immediately use two Kocher pincers for the cord and section between them.
- After the internal rotation that the fetus does in his own, hold the head with both hands, by the parietal; tractioning softly going down detaching the shoulder anticus pubis, and after that, go up and detach the posterior shoulder. The rest of the body detaches easily. Hold the newborn to avoid that it goes out abruptly.
- Care of the newborn:
 - Place the newborn in oblique position leaning the baby over his or her arm with the head slightly lower than the rest of the body, so the ora-nasal secretions come out spontaneously.
 - Hold the newborn at a lower level than his or her mother.
 - Dry the baby's face, mouth and nasal fossa.
 - 30 seconds after the baby is born when the cord stops beating, place a kocher pincer 3 cm of the umbilical cord insertion and another one 3cm of this one . Cut between both pincers. Ligate the cord.
 - Dry and keep the baby warm. Put him or her in touch with mother's breast to initiate earlier breastfeeding (make sure the mother places the baby in a proper way). This step will make a greater production of maternal milk, stimulating the newborn fondness and will improve uterus involution making the use of ergonovinics unnecessary (Sintocinon or metergin).

DELIVERY CARE

Objective

- Assure the complete expulsion of the placenta and adnexa through a physiological detachment progress.

Actions

- Placenta expulsion:
 - Normally delivery is produced between 5 and 30 minutes after the newborn has gone out.
 - Detachment signs of placenta are:
 - . Contractions Reappearance.
 - . Genital bleeding.
 - . Uterus descensus
 - . Making a soft traction of the cord, this one is not perceived through abdominal palpation from the uterus fond (fisher sign)
 - . You should wait to tract the cord until detachment signs appear, to avoid a total or partial retention of the placenta or/and membranes.
 - . If there are signs of detachment encourage the patient to push to facilitate the exit of the detached placenta.
 - . When the placenta comes out hold it with one hand under the perineum, raising the uterus towards the sinfisis pubiana with the other one. You can facilitate the exit of the detached placenta twisting without tracting, the placenta over its axis until the total exit of the membranes.
 - . Verify the security globus formation of Pinard that indicates a good uterine retraction. Do not perform abdominal massage over the uterus.
 - . Estimate blood loss volume in the delivery in the most accurate way. Delivery metrorrhagia usually does not go up to 350cc.
 - . *The rutinary use of uterine retractors is not recommended.*
- Placenta and Membranes exam:
 - Carefully examine placenta, first by its fetal side reverse it and examine the maternal side. Place it over a flat surface make sure that a cotyledon is not missing. Observe the membranes from the rupture sight trying to rebuild the amniotic bag.

- Episiotomy or tears suture:
 - Explain the patient what you will be doing
 - Wash her well with a disinfectant solution non-irritant to perineum.
 - Change your working clothes and gloves if they are contaminated (deposition).
 - Perform a close examination of the perineum corroborating its indemnity.
 - If there are tears or you have done episiotomy and did not give her local anesthesia for the section, do it now , infiltrating in the subdermic tissue on both edges of the episiotomy (Marvaine or Xilocaine).
 - Performing plain catgut 00 or 00 Also the use of poliglactin or poliglicolic sutures (Vicryl-Dexon).
 - Start by the mucosa vaginal angle. Using continuous stitch surget or separated stitches, avoiding to leave death spaces.
 - Reaching the perineum it comes the muscular plain with separated stitches, observing total hemostasis. Then suture separated stitches in the skin.
 - If you used a vaginal tampon do not forget to remove it.
- Perform a complete vulva-perineum washing with disinfectant solution non-irritant. Place an sterile dressing.
- Control vital signs, uterine retraction and metrorrhagia.

CARE IN THE IMMEDIATE
PUERPERIUM
(2 hours after delivery)

Objective

- Watch the physiological process of the uterine retraction to prevent hemorrhage.
- This delivery period has a highest hemorrhage risk due to:
 - Atony or uterine inertia (does not contract)

- Retention of placenta remainders.
- Cervical and vaginal tears.
- Bleeding points in episiotomy
- Uterine rupture.

Actions

- Move the woman along with the baby to a bed that will allow her to adopt a comfortable position so she can rest and be with the baby.
- Make sure that the woman is hydrated and very warm.
- The woman should remain under strict surveillance during the first 2 hours after delivery.
- Perform the following controls in the woman every 30 minutes or with more frequency if there is any risk:
 - Control vital signs.
 - Control general signs (skin color, temperature and humidity of the skin, conscience level and coordination with the environment, well-being sensation and comfort).
 - Uterine retraction control (formation of the globus security of Pinard) genital bleeding.
 - Check up the episiotomy (observe if formation of hematomas show)
- Prophylactic treatment of uterine inertia with venoclysis is recommended 10 - 15 unities of oxitocin in 500 ml of physiological solution in cases of:
 - Fetal volume excess.
 - Twin delivery
 - Polyhydramnios.
 - Multipara.
 - Prolonged labor.
 - If medicines to inhibit uterine contraction have been used.
- If there is hemorrhage:
 - Initiate venoclysis with ringer lactate solution.

- Identify quickly bleeding origin and initiate treatment (see protocols *Delivery Hemorrhages*).
- If it is atony, massage to stimulate contraction and exit of clots.
- Assess resolutive capacity available for the proper management of the complication; if it is insufficient refer her to the most complex level with the indicated measures.

**CARE DURING MEDIATE
PUERPERIUM
(From 2 to 48 hours post-partum)**

Objective

- Watch for physiological development of puerperium, detect and treat complications timely.

Actions

- If there are no complications move the patient to a puerperium unity together with the newborn.
- Encourage the beginning of movement as early as possible (timely guidance).
- Initiate feeding promptly (complete diet if there are no complications). Make sure there is good hydration.
- Encourage exclusive maternal breastfeeding and room sharing for the baby and the mother. Explain the importance of the colostrum and its benefits to maintain the uterus tone and to feed the newborn.
- Observe:
 - General condition of the patient.
 - Condition of inferior extremities.
 - Control of vital signs.
 - Diuresis and excretions elimination.
 - Height consistency and uterus sensibility.
 - Quantity and characteristics of lochia.
 - Perineum and suture condition.

- Breast condition (nipple exam, search for chaps). Verify beginning of breastfeeding.
- Observe condition of newborn (*see protocol on Care and assessment of newborn*).
- Give guidance to motivate regular cleanliness of the patient, by herself or the help of relatives or health personal.
- Perform genital cleanliness with antiseptic solution non-irritant at least twice a day specially if she does not get up.
- Episiotomy care if indicated.
- Prescribe vitamin A 200.000 UI v.o. (one dose only). If delivery was at home, prescribed in the first contact you have with the woman.
- Give clear indications when she is discharged about:
 - How she has to do her hygiene to avoid infections.
 - Feeding and hydration to improve her recovery and breastfeeding.
 - Guidance about iron intake during breastfeeding.
- Give advice about complications signs for her and her baby and the importance to go to the health facility as soon as it occurs.
- Reinforce guidance about intergestacional spacing (family planning). Inform her about when and where she should go if she wishes birth control.
- Encourage the mother to come to puerperium controls growing and development of the newborn and to comply with vaccination schedules.

Material and Equipment

- Pinard or obstetric sthetoscope.
- Complete equipment for delivery care (pajamas, clothes, instrumental material).
- Amniotome.
- Xilocaine without epinephrin to 2%
- Needles

- Episiotomy equipment.
- Rubber pear.
- Ambu with adult and infant mask.
- Oxygen.
- Heat lamp for the newborn.

Information for the patient about
LOW DELIVERY CARE DELIVERY

For I and II level

Your pregnancy will end with delivery. To help and care for your child birth it is called care delivery.

You will know that you have started your normal delivery when:

- When you feel contractions, meaning your belly hardens up with frequent pains that are repeated two or more times every 10 minutes.
- When you see phlegm with blood spots come out (the sign or mucous tampon)
- When a transparent liquid comes out from your parts, that's because your bag broke in which the baby is found.

At the health center you will receive the following care:

- They will ask you a series of questions so you will tell us what has happened until now.
- We'll take your blood pressure.
- We'll see if your pulse and body temperature are normal.
- We'll perform a test touching you belly to know:
 - . How you baby is placed
 - . How big your baby is.
 - . If the liquid quantity of the bag is normal.
 - . If the size of your hip will allow that your baby is born through your parts.
 - . If the baby's head is already descending.
- We'll watch for the general condition of your baby, listening to the heart beats of your baby to assure that the baby is well during delivery.

- We'll perform a vaginal exam to check how dilatation is advancing and how long before your baby is born.
- We'll control the frequency of your contractions.
- We'll prepare you for your delivery and ask you :
 - That you go to the bathroom for your necessities to facilitate delivery.
 - That you wash up your parts with luke warm water and soap or we'll do it ourselves. This will help to avoid infections.
 - From time to time we'll write down the dilatation process of your parts.
 - You can choose in what position you want to have your baby.
 - When your dilatation is complete, you'll start feeling an spontaneous wish to push. Only push when the impulses get by themselves to avoid getting tired before the baby is born.
- When your baby is born:
 - We'll dry the baby with a towel.
 - We'll keep the baby warm.
 - We'll put the baby in your breast to begin breastfeeding. This way you will have a greater milk production, this will help you to expel the placenta and your matrix will contract normally; this will avoid hemorrhages and will also help a good affective relation with your baby.
- After 5 to 30 minutes the contractions will reappear. This will help that your placenta goes out completely. If you wish, we'll give your placenta in a nylon bag.
- We'll watch you in the delivery room a couple of hours, and we'll ask you to massage the lower part of your abdomen to avoid hemorrhages. Then we'll take you to your room along with your baby so you take care of him/her and breastfeed the baby frequently, and so then you will have enough milk that your baby needs.
- When you feel better, you can walk a little. You'll get a complete diet, we'll inform you about family planning and about caring for your baby.

General information:

- You will be able to drink water or juices with sugar during the delivery process.
- You will be able to walk during contractions and share those moments with your partner, family and the TBA.
- At the delivery room you will have the company of your partner, family or the TBA.
- You must not take any medication, tea or mate to rush delivery artificially.

PREMATURE LABOR

Definition

It is the presence of uterine contractions regular in frequency and intensity, with cervical modifications (diffusion or dilation) after 20 gestation weeks and before 37 weeks

Risk factors

- History of abortion or premature delivery.
- Heavy work.
- Smoking.
- Severe anemia.
- Urinary infection
- Polyhydramnios.
- Twins
- Fetal malformation
- Uterine malformation
- Tumors (myomas)
- Cervical insufficiency.

Clinical signs

- Regular uterine contractions more than 2 in 10 minutes and with a duration of at least 30 seconds or more of 6 contractions of 45 seconds during 1 hour.
- At vaginal examination, cervix with erasing or/and dilation. Presence of uterine dynamic and cervical modifications

Management

- Explain the patient and their relatives about the risks and what you will be doing.
- Ask the patient about the date of the last menstruation (FUM). Measure uterine height when there is no contraction to determine gestational age.

- Palpate softly the uterus to determine the frequency, duration, and intensity of contractions as well as the fetal situation and presentation, avoid stimulating the uterus.
- Assess fetal cardiac rate.
- Disregard symptoms of low urinary infection.
- This patient should be hospitalized.

HEALTH POST

Treatment

- Refer the patient, accompany her and be prepared before the possibility to take care of a delivery while moving her.
- Reinforce indications to avoid quick expulsion, protecting the perineum and holding the head softly during that time.

Referral Criteria

- This patient should be referred promptly to level II.
- If the delivery is close, assess the best opportunity to refer (considering that the best incubator for a preterm newborn is the mother's womb).
- If you were at the delivery, try to refer them both as soon as possible, make sure the newborn is dry and very warm (see *protocol on Preterm newborn*)

HEALTH CENTER

Treatment

- Same indications that for the Health Post.
- Before referring the patient initiate contraction inhibitions with:
 - Ritodrine : Dilute an ampule in 500 cc in a glucose solution to 5% initiating dripping with 20 g/minute increasing dripping from 10 to 10 drops to reach the wished effect without surpassing 60 drops /minute.
 - or
 - Fenoterol: Dilute 1 ampule (5mg) in 500 cc in glucose solution to 5% Start with 8 drops/minute and increase to get the wished effect, without surpassing 25 drops/minute (20 drops = 1 microgram).

- These medications produce the following collateral effects: tachycardia, nausea, vomiting, vasodilatation and chills.
- Diazepam: 5-10 mg v.o.
- Administer treatment with the mother in left lateral decubitus controlling maternal tachycardia does not surpass 120 beats per minute.
- Administer oxygen with mask 2 to 5 l/min if available
- Do not perform uterus inhibition in the following cases:
 - Premature membrane rupture.
 - Decompensated diabetes.
 - Nephropathy.
 - Cardiopathy.
 - Death fetus.
 - Induced hypertension due to severe pregnancy or eclampsia.
 - Dilation more than 4 cm.
 - Intrauterine growth retardation.
 - Congenital anomaly incompatible with life.

Referral Criteria

- Same as in the Health Post.

DISTRICT HOSPITAL

Treatment

- Bedrest (hospitalization) preferably in left lateral decubitus.
- Volumetric expansion with infusion of 1.000 cc of lactate Ringer solution between 30 to 60 drops per minute.
- Sedation with Diazepam 5 to 10 mg orally every 12 hours.
- Uterus inhibition:

- Ritodrine: Dilute 1 ampule (5mg) in 500 cc of glucose solution in 5% Start with 20 g/minute and increasing dripping from 10 to 10 drops to reached wished effect without surpassing 60 drops/minute.

or

- Fenoterol: Dilute 1 ampule (5mg) in 500 cc of glucose solution in 5% Start with 8 drops/minute and increase to get the wished effect, without surpassing 25 drops/minute (20 drops = 1 microgram).

Considerations

- The beta adrenergic produce the following collateral effects: tachycardia, vasodilatation, hypotension increase of lipolysis, glycogenolysis, nausea, vomits and chills. Observe and control the effects decreasing dripping.
- They will be administer with the mother in left lateral decubitus controlling maternal tachycardia that does not surpass 120 beatings per minute.
- Control every 20 minutes
 - Uterine activity and fetal cardiac rate
 - Maternal pulse
 - Blood pressure
 - Intensity of collateral effects.
- Later control every 2 hours to assess the maintenance of the inhibitor effect.
- After 12 hours without uterine activity the treatment is changed to orally. Start with Fenoterol 5mg every 6 hours.
- Administer oxygen with mask 2 to 5 l/min.
- Antiprostaglandinics:
 - Indomethacin: Administer 100 mg per rectum every 12 hours. Not surpassing total administration of 1 gram during the whole pregnancy to avoid early ductus closing.
- Prevent difficulty respiratory syndrome if:
 - Pregnancy between 27 and 35 weeks.

- There are cervical modifications
- No answer to treatment.

With:

- Betamethasone 12 mg i.m. during 2 days and then every 7 days until the 35th week of gestation.
- Find out cause and follow treatment if possible (disregard low urinary infection).
- Do not perform uterus inhibition in the following cases:
 - Premature membranes rupture.
 - Decompensated diabetes.
 - Nephropathy.
 - Cardiopathy.
 - Death fetus
 - HIE severe or eclampsia
 - Dilation more than 4 cm.
 - Intrauterine growth retardation.
 - Congenital anomaly incompatible with life.

Referral Criteria

- If the resource is insufficient to follow the described management, refer to level III.
- If there is no response to treatment and the available resources are insufficient for the care of the preterm newborn, refer before delivery.

Resources

- Equipment and crystalloid solutions of venoclysis.
- Lactate Ringer.
- Diazepam 5- 10 mg (orally)
- Ritodrine (ampules)

- Fenoterol (ampules)
- Indomethacin 100 mg (rectum suppositories).
- Betamethasone (orally)

Information for the patient about
PREMATURE LABOR

WHAT KIND PROBLEM DO I HAVE?

Problem explanation:

You have started to have contractions, this can make your baby is born before time. This happens for different reasons, we will try to determine the proper treatment and stop the problem. If possible explain the problem causes.

WHAT CAN HAPPEN TO ME AND MY BABY?

Problem consequences:

Your baby might be in danger, because if the baby is born too early he or she won't have lung capacity to breath, the baby won't be able to suck or eat, and maintain its own heat.

WHAT ARE THEY GOING TO DO OR GIVE?

Treatment/procedure:

For level I

- We'll try to stop contractions, with medications and a lot of rest, so the baby is born in 9 months.
- We'll take you to a more specialized health service.

For level II (Give information of level I and add this one)

- If we can't stop your contractions, or your bag has broken, we'll give your baby a treatment to strengthen its lungs before he or she is born, to avoid any danger.
- If resources were not available to solve your problem we would take you to an specialized hospital.

PROLONGED LABOR

Definition

It is the labor with a duration of more than 12 hours for primiparas and 8 hours for multiparas.

Risk factors

- Polyhydramnios.
- Multiple pregnancies
- Fetal macrosomia.
- Fetal pelvic disproportion.
- Dystocia presentation or fetal situation.
- Uterine hypodynamia.
- Maternal exhaustion (dehydration).
- Full bladder.

Complications

- Prolonged labor can produce:
 - Acute fetal suffering.
 - Fetal death
 - Physical and psychological exhaustion of the mother.
 - Maternal dehydration respiratory alkalosis.
 - Maternal hemorrhage (uterine rupture, uterine inertia)

Clinical Signs

- Dilatation progresses in less of 1 cm per hour in the active phase (from 3 to 10 cm).
- Labor duration more than 12 hours in primiparas and more than 8 hours in multiparas.

Management

- Accurate information and support the patient to diminish tension, anxiety and fear.
- Encourage active participation of the mother and her relatives
- Assure a good vesical emptying.
- Investigate uterine dynamic and identify cause that prevents regular and effective contractions.
- Assess the maternal exhaustion condition by hydroelectrolitics alterations (dehydration) and fetal condition.
- Control fetal cardiac rate after each contraction during 10 min. every 1/2 hour.
- Identify presence of risk factors.
- Assess available resources and necessity to refer.
- If referring:
 - Inform the patient and relatives about the cause and place of reference.
 - Calm the patient down and give her complete and clear information.
 - Patient in left lateral decubitus position while is referred.
 - Accompany the patient be prepared for care delivery.
 - Register diagnosis and treatment done.

HEALTH POST

Treatment

- Refer immediately to Health Center or District Hospital according to available resources.
- Before referring
 - Catheterize vein for hydration with 500 cc of physiological saline solution or Ringer.
 - Encourage pregnant woman to empty her bladder spontaneously.

- If the membranes are ruptured for more than 6 hours, initiate treatment with Ampicillin 500 mg i.m. (after that continue with 500 mg v.o. every 6 hours).

Referral criteria

- If there is any doubt or confirmation of prolonged labor.
- If any doubt or confirmation of presence of risk factors.

HEALTH CENTER

Treatment

- If in the partogram the dilation curve surpasses the action line refer immediately (except if there are more than 8 cm or/and push).
- In any case that the dilation curve in the patient partogram surpasses the alert curve, you should revalue the fetus maternal conditions.
- Revalue:
 - Pelvis conditions (cephalopelvic disproportion).
 - Fetal size (macrosomia)
 - Assess presentation and fetal position.
 - Detect persistent posterior variety.
- Refer if there is any doubt or confirmation of aggregated risk factor.
- If the dilation curve in the patient partogram presents a tendency that surpasses the alert curve during 2 time controls:

With 7 cm or more:

- Normal presentation and intact membranes, proceed to perform artificial membranes rupture (AMR).
- If there is no progress, refer to care level II.
- If the membranes are ruptured and the presentation is abnormal refer.

Less than 7 cm:

- Refer to care level II
- Before referring follow the same instructions indicated for the Health Post.

Referral criteria

- If the partogram reflects dilation curve that surpasses the alert curve or of action.
- Before, if any doubt or confirmed risk factor

DISTRICT HOSPITAL

Treatment

- In case that the dilation curve in the patient partogram surpasses the alert curve, you should revalue the fetal maternal conditions
- Revalue
 - Pelvic condition (cephalo-pelvic disproportion)
 - Fetal size (macrosomia)
 - Assess presentation and fetal position.
 - Detect persistent posterior variety.
- If dilation curve in the patient partogram shows a tendency that surpasses the alert curve during 2 time controls:

With 7 cm or more:

- With ruptured membranes or/and abnormal presentation or/and fetal suffering or Dips attributed to tight circular of the cord, perform cesarean.

with less than 7 cm.

- With rupture membranes and/or abnormal presentation and/or fetal suffering or Dips attributed to the circular tight of the cord, perform cesarean.
- If in the partogram the dilation curve surpasses the action line:
 - Assess obstetric conditions if she is not with advanced

dilation (more than 8 cm), perform cesarean.

- Only if there are alterations in the dynamic uterine refer to protocol of *Induct conduction of labor*.
- Hydration with 500 cc of physiological solution or lactate Ringer.
- If membranes are ruptured for more than 6 hours, administer Ampicillin 500mg i.m. only once and continue with 500 mg every 6 hours v.o.

Referral criteria

- If resources are not available for the proper management of the mother and newborn (risk of maternal hemorrhage and hypoxia neonatal) refer to the most complex level.

Information for the patient about

PROLONGED LABOR

WHAT KIND OF PROBLEM DO I HAVE?

Problem explanation:

Your delivery is taking longer than it should; your dilatation is too slow.

If possible, explain the problem causes.

WHAT CAN HAPPEN TO ME AND MY BABY?

Problem consequences:

Your baby will have respiratory problems at birth and the baby will suffer during labor process. At the same time you will get exhausted and dehydrated in a way that you won't be able to help in the child birth. There is a risk that you have a strong hemorrhage.

WHAT ARE THEY GOING TO DO OR GIVE?

Treatment/procedure:

For level I

- We are going to examine you to see why your delivery is delayed.
- We'll ask you that you empty your bladder again so you have more space and help childbirth.
- According to the diagnosis, we'll accompany you to a more specialized service to be certain why the delay in the delivery.

For level II (give the information of level I and add this one)

- To help you with the delivery, we'll put you a solution with medications that will improve the strength of your contractions, and we'll cause that your water bag breaks.
- If this does not work and your baby is suffering, it is necessary to perform a cesarean section. (Note: Refer to correspondent protocol).

INDUCED LABOR

Definition

It is a procedure to start labor artificially

It is called *induction* when there is no uterine activity and actions are addressed to start it.

Conduction is the management of uterine contractions regulating their intensity and frequency until labor is completed.

Indications

- Favorable cervical conditions with a Bishop index higher than 6 points (see chart 1).

Contraindications

- Fetal-pelvic disproportion.
- Abnormal presentation or conditions.
- Acute or chronic fetal distress.
- Previous placenta.
- Previous tumors.
- History of uterine surgery: corporal cesarean section, iterative cesarean section, miomectomy, etc.

Technique

- Explain the patient what you will do to her and the expected effects.
- Start Oxytocine dripping at 4mU/minute and increase the dose duplicating it every 30 minutes until an adequate response is obtained; do not surpass a dose of 32 mU/minute.
- If it is not effective, stop dripping 12 hours after; allow uterine fiber to rest for 12 hours and restart with a dose of 8 mU/minute duplicating the dose until response is obtained.
- If the second attempt fails, you should assume the maneuver has failed. Cesarean section is indicated.

Resources

- 5 units oxytocine, ampules.
- Venoclysis with crystalloid solutions.
- Venoclysis.

CHART 1 MODIFIED BISHOP TEST

Definition

It is a scoring system which summarizes in numbers the cervical and setting conditions of fetal presentation in order to carry out in each case an adequate induction.

Assessment

Parameters	0	1	2	3
Effacement	20%	30%	50%	borrado plus 4
Dilation				
Consistency	0	1-2	3-4	-
Position	rigid	medium	soft	-
Engagement	posterior free	central insinuated	anterior set	set

Interpretation

- A score over 9 indicates maturation of local conditions. The delivery can be induced.
- A score below 7 shows immature conditions. Induction is not recommended.

Source: Hospital San Gabriel Norms and procedures, 1992.

**Information for the patient about
INDUCED LABOR**

Why will you induce the labor?

Explain the procedures:

Your baby is prepared to be born but labor has not started yet, or if it started, contractions stopped. We will administer you some medications so you have contractions and help your baby to come out.

What will you do or give to me?

Treatment/Procedure:

For II level exclusively

- We will put a solution in your arm containing medication which will help to start contractions.
- While we apply this medication we will monitor you and your baby to make sure you both are fine.
- If the baby does not come out, we will repeat the treatment.
- And if it does not result, we will recommend a cesarean section.

BREECH DELIVERY CARE

Definition

A breech delivery occurs when the fetus lies presenting the feet or buttocks first. This is the most frequent malpresentation.

Diagnosis:

- Abdominal physical exam: Cephalic pole is felt on the higher part of the uterus. The podalic pole can be felt on the pelvic region allowing no round signs.
- Fetal heart rate (FHR): it is primarily felt below the umbilicus.
- Vaginal exam: buttocks or feet can be felt.

Diversity of podalic presentations

- a) Mere breech presentation (buttocks): both legs are flexioned and knees are stretched. This is the most frequent malpresentation.
- b) Complete breech (buttock) presentation: both hips and knees are flexioned.
- c) Uncomplete breech (feet) presentation: one or both feet or knees are below the fetal sacrum.

Risk factors

- Prematurity.
- Multiple pregnancy.
- Previous placenta.
- Fetal malformations.
- Uterine malformations.

Considerations

- Vaginal delivery is recommended only for mere breech presentations.
- Complete breech presentation can be delivered only by multiparous women with fast progress and feet presentation.

- Vaginal delivery is contraindicated for any breech presentation associated to another pregnancy complication such as previous placenta, PIH, RCIU, diabetes, etc.
- In no case with breech presentation a delivery should be induced.
- Any person attending a breech delivery must be properly trained and strictly comply the technique.

HEALTH POST

Management and treatment

- If breech presentation is suspected or confirmed, refer timely to care level II, except for imminent delivery (patient in expulsive phase), with mere breech presentation, according to management and treatment described for Health Center and District Hospital.

HEALTH CENTER AND DISTRICT HOSPITAL

Management and treatment

- Explain the patient what is going on and the procedure to be carried out; make her feel confident and tell her about the importance of her active participation and her relatives accompanying her for a successful development of the delivery. Talk to her using adequate language according to her socio-cultural characteristics and respect her values.
- Prepare the patient in dorsal decubitus position leaning both heels or almost sitting or squatting to facilitate spontaneous push.
- Try an adequate perineal hygiene with warm water dripping through the genitals and softly opening the vulva.
- Prepare delivery kit, gloves and sterile environment
- Wash your hands thoroughly.
- Attention of expulsive phase and management of detachment:
 - Observe expulsion of feet or buttock without touching them.
 - Breech delivery must occur spontaneously. Avoid any intervention stimulating the fetus to avoid the stretching of the arms and head inside the uterus.

- You must always observe that the fetus back is on anterior position until the vertexes of the aescalapia appear which indicate that shoulders are at the pelvic region.
- When the anterior shoulder descends, hold both ankles of the fetus with your left hand and introduce your right index and middle fingers in the vagina. Then softly and pressing pull the fetal forearm so that it moves in front of the fetal thorax and under the maternal pubic.
- The procedure should be repeated on the opposite side reaching the fetal arm inside the sacrum cavity. If you cannot reach it, rotate the fetal trunk 90 degrees to have access to the left arm under the pubic symphysis.
- After both arms have been pulled out, allow the fetus to hang for approximately one minute so that its weight exercises traction on his own head, until the hair implantation can be seen in the nape. This indicates the head is in the pelvic cavity.
- Lift the fetus holding him by both ankles towards the maternal abdomen. Pull softly the umbilical cord forming a handle to avoid traction. When the cephalic pole is free, and if the umbilical cord is short, you can cut the cord at this moment.
- Applying a soft and lasting traction, you can pull the baby out. Try to make it as spontaneous as possible.
- If there are difficulties for expulsion of the cephalic pole practice de Mauriceau-Viet-Smellie maneuver: If you let the fetal thorax rest on your right arm and introduce your right index and middle fingers in the fetal maxilar to produce a maximum flexion. Pressure must no be done on fetal mandible. Place your left hand on the fetal back using your index and ring fingers to produce traction on the fetal shoulders, and the middle finger to facilitate a head flexion.
- There are only 3 to 5 minutes to favor the expulsion of the fetal head without producing fetal hypoxia.
- Placenta delivery care and the new born the same to low risk delivery care (see corresponding protocol).

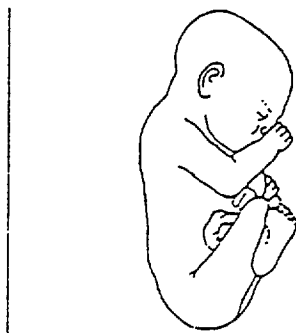
Referral Criteria

- If problem solving capacity (especially regarding training) is insufficient for the described management, refer immediately.

Figure 2
BUTTOCK DELIVERY

Diversity of breech presentations

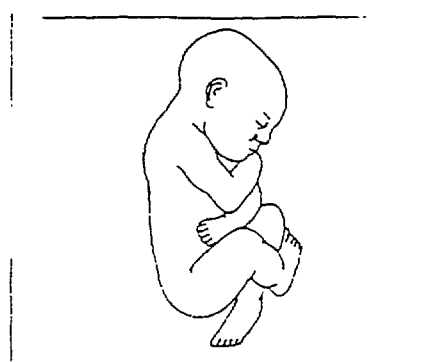
These three types of breech or buttock presentations are described paying attention to the relation between the position of the fetus lower extremities and buttocks.



Frank breech (or buttock) presentation. Both legs are flexioned presenting flexioned hips and stretched knees. This is the most common diversity for deliveries at term.



Complete (or breech) buttock presentation. Both hips and knees are flexioned.



Incomplete buttock (or feet) presentation. One or both feet or knees are placed at a lower level than the fetal sacrum.

Information for the patient about BREECH DELIVERY

What is the problem?

Explain the problem:

According to the exam we have performed, we can see that your baby is in the wrong position (it is on the buttock or feet position). This position is dangerous for a normal vaginal delivery since your baby will have difficulties to come out and he/she can get stuck.

What can happen to me and my baby?

Consequences of the problem:

If we do not solve this problem, your baby will have difficulties to come out; he/she will have to make many efforts and that will damage him/her. He/she can also get obstructed and may not be born.

It is important to be aware that this delivery must be attended by an experienced professional since in most cases a cesarean section operation is necessary. Likewise, depending on your conditions, we will see if it is possible that your baby is born through your parts. This decision will be made according to your conditions and your baby's to avoid any suffering for you both.

What will you do or give to me?

Treatment/procedures:

Based on the clinic evaluation, we will practice a cesarean section operation or the delivery will be attended through your parts. Likewise, we will be prepared to attend any problem that your baby might have.

For level I

Vaginal delivery

- If it is a vaginal delivery, we ask you to follow carefully all our instructions. That will facilitate the delivery.
- According to the diagnosis, we will accompany you to a more specialized health service in order to find out what is delaying the delivery.

For level II (In case of a vaginal delivery, provide the forementioned information).

(In case of a cesarean section, inform the patient about the corresponding protocol).

APPLICATION OF FORCEPS

Forceps are very useful instruments when properly applied according to the adequate technique and for the adequate situation.

If requirements are not fulfilled or if training and ability needed are not enough, they can cause maternal and fetal serious damage.

Their function is:

- To facilitate fetal rotation when presentation is not direct.
- To produce the necessary traction to project fetal pole out of the pelvis.

Indications

- Forceps should be applied only when maternal effort is intended to be reduced or to protect the fetus from acute fetal stress (AFD). This maneuver must be carried out to accelerate the second phase with fetal head on perineal base (low forceps) and in direct position.

Requirements for their application

- Excellent knowledge of their operation as well as the adequate technique.
- Perfect identification of pelvis.
- Biparietal diameter must be below sciatic spines and in direct position.
- Complete cervix dilation.
- Ovular membranes ruptured.
- Accurate diagnosis of the position.
- Empty bladder and rectum.
- Adequate analgesic or anesthesia.

Direct anterior technique

- Simpson forceps are the most suitable.
- Patient in gynecologic position.

- Try spontaneous vesical emptiness; if it is not possible, empty the bladder inserting a probe with an aseptic technique.
- Aseptization of vulvovagine-perineal region.
- Anesthesia.
- Articulated forceps must be held with pelvic curve upwards in front of the patient.
- The posterior branch (left branch for left anterior occipital and right branch for ODA) should be placed first. This manœuvre must always be done placing a hand as guide between the maternal pelvis and the fetal head (Figure 3).
- For this purpose, place the handle of forceps in vertical position and let them balance softly until they reach a horizontal level pushing them into the vagina along the fetal head.
- Introduce the anterior branch in the same way, placing a hand as guide.
- After articulating handlings, verify seizure localizing the posterior fontanel in a middle distance between both branches. Sagital suture must be perpendicular to both branches.
- When the head distends the vulva, an episotomy must be practiced. Pull forceps towards the pelvic base and operator's trunk. The strength must come only from the flexion of the operator's arms, keeping elbows close to the trunk.
- Desarticulate the forceps during intervals between contractions. During the expulsion of the fetal head, protect the perineum with a compress and change the direction of the traction doing it upwards in a 45-degree horizontal angle.
- As soon as parietal bones appear, desarticulate the forceps removing first the right branch and allowing external restitution and rotation movement.
- Place the fetal head between the palms of your hands on fetal parietals and apply a soft traction towards the floor, until anterior shoulder is brought out.
- Set posterior shoulder lifting the head softly. The rest of the body will be easily delivered.

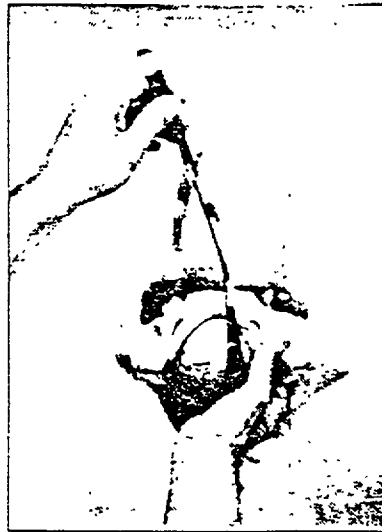
Referral Criteria

- Since this an emergency procedure, evaluate if all resources needed are available; if these are not enough referral is not a practical criteria except if the hospital is very close. Therefore, a wide episiotomy is preferable. Do not pressure the mother psychologically. Do not practice abrupt manœuvres.

Resources

- Simpson forceps.
- Nelaton catheterd.
- Episiotomy kit.
- Diazepam.
- Xylocaine.
- Cat gut.
- Suture kit.

Figure 3
INSERTION OF FORCEPS



Introduction of the first branch in occipital-pubic position. The left branch is taken with the left hand and guided with the right hand located in the left ischio-coxigeo space. Only the thumb remains out of genitals.



Introduction of the second branch in occipital-pubic position. Right branch is taken with the right hand. Left index and middle fingers introduced into the vagina. The right thumb must be located at the convex edge of the spoon and serves as rotation axel.

Information for the patient about
INSERTION OF FORCEPS

What is the problem?

Explain the problem:

According to the we have performed, we can see that your baby is in a wrong position (he or she is on buttock or feet position). This position is dangerous for a normal vaginal delivery since your baby will have difficulties to come out and he/she can get obstructed.

What can happen to me and my baby?

Consequences of the problem:

If we do not solve this problem, your baby will have difficulties to come out; we'll help you with a device and it won't be painful for you and your baby. (If possible explain the causes of the problem.)

What will you do or give to me?

Treatment/procedures:

For level II, exclusively

- We'll give you anesthesia in your parts to avoid any pain.
- Using devices similar to spoons we'll help your baby to come out.

CESAREAN SECTION SURGERY

Definition

It is a surgical procedure, the objective is to remove the product of conception through a laparotomy and practice an incision of the uterine wall, with a pregnancy of more than 37 weeks.

The associated risk of a cesarean compared to a vaginal delivery is 4 times higher for the mother and 5 times higher for the neonate.

A cesarean section can be:

- *Selective*: Programmed Surgery due to patient's clinical history.
- *Emergency*: Due to maternal or fetal complications during the labor.
- *Previous*: In patients with history of previous cesarean section.

A cesarean section is repeated only in the following cases:

- If the absolute cause of the first cesarean section was:
 - Fetal-pelvic disproportion (pelvic narrowness).
 - Uterine malformations.
 - Previous corporal incisions.
- History of surgery in uterine body.

In patients with history of previous cesarean sections a vaginal delivery will be allowed only at II or III care level and under the following conditions:

- Hospital admission during the first period of the delivery.
- Strict observation of uterine dynamic monitoring signs of imminent uterine rupture or dehiscence.
- Post-delivery manual review of uterine scar.
- Iterative cesarean section: History of two or more cesarean sections.

Indications

- Fetal-pelvic disproportion.
- Acute fetal distress.
- Previous placenta.
- Premature detachment of normoinsertered placenta.
- Prolapse of non-reductable cord that affects fetal conditions.
- Failed induction (see induction protocol).
- Patients with factors of obstetrical risk due to diseases associated to pregnancy (diabetes, cardiopathy, nefropathy, etc.) or induced by pregnancy (pre-eclampsia-eclampsia).
- Acute infections of genital tract (condilomatosis, herpes, etc.).
- Fetal-maternal isoimmunization with fetal risk.
- Cervical pathology (carcinoma, severe displacia, etc.).
- Distocia of soft parts.

Referral Criteria

- Depending on the causes indicating a cesarean section. Assess materno-fetal risks and if resources for adequate management are not enough, refer to a higher complexity level.

Resources

- Cesarean section kit.
- Anesthesia equipment.
- Ringer-physiological solutions (1000 cc).
- Fleboclysis kit.

Information to be provided to the patient about
CESAREAN SECTION

What is the problem?

Explain the problem:

(Note: The health professional must explain the patient and her family the reasons why she must be operated, and provide them with the information about complications, maternal and fetal risks. For this answer, you can refer to the section of the corresponding protocol).

- Given your and/or your baby's conditions, you cannot have a normal delivery and we must operate you to assure your wellbeing and your baby's.

What can happen to me and my baby?

Consequences of the problem:

Unless a cesarean section is practiced, we can not avoid that your complication worsens.

What will you do or give to me?

Treatment/procedures:

For level II, exclusively:

- We will take your blood pressure and will monitor your baby's heart rate before surgery.
- We will prepare your abdomen cleaning it with warm water and soap, and we will apply a disinfectant.
- We will apply a disinfectant solution on your back and you will feel a bit cold.
- We will give you anesthesia in your back. This anesthesia will allow you to be awake and feel no pain during the birth of your baby.
- We will give you an intravenous solution to administer some medications, if necessary.
- We will practice surgery below the umbilicus.
- Three days after surgery you will be able to walk and start working one and half month after surgery.

POST - PARTUM HEMORRHAGE

Definition

The loss of more than 500 cc of blood through the vagina once the fetus has come out, up to 24 hours post-partum.

The most frequent causes are:

- Atony or uterus inertia.
- Total or partial placental retention (placental and membranous remainders).
- Uterus, cervix, vagina or perineum lesions.
- Discard uterine rupture.

Risk Factors

- History of post-partum hemorrhage.
- Uterus rupture or inverted uterus
- Uterus surgery, tumors, cesarean, dilatation or curettage.
- Placenta retention.
- Problems of blood clotting.
- Five or more previous pregnancies.
- Anemia.
- Previous placenta.
- Membranes premature rupture.
- Preeclampsia / eclampsia.
- Fetus death inside the uterus.
- Multiple pregnancy.
- Hepatitis.
- Polyhydramnios.

In this pregnancy:

- Induced labor (herbs or other medicines to force beginning of contractions).
- Extended labor.
- Chorioamnionitis (foul smelling vaginal discharge and fever)
- Precipitate labor (3 hours more or less).
- Genital bleeding for any reason during prenatal period.
- Improper delivery care.

Maternal risks.

- Severe anemia due to hemorrhage.
- Hypovolemic shock.
- Maternal death.

General clinical signs

- Sparkling red blood.
- Hemorrhage higher than 500 cc. Hemorrhage can be slow affecting patient constantly and not noticeable or it can be abrupt.
- General paleness.
- Gradual decrease of blood pressure. Accelerated pulse.
- Perspiration, wet skin, dizziness, nausea, lipothymia.
- Shock.
- If hemorrhage increases or the mother's general condition shows change (shock symptoms), it should be verified whether there is blood accumulating in the uterus. The mother starts expelling liquid blood and/or clots of blood (uterus increases its volume, becomes soft and it is painful).

General Management

- Require support and assistance from other people (relatives or other persons from the health team).

- Control pulse and blood pressure.
- Identify cause of hemorrhage and apply corresponding treatment (see uterine atony protocol or placental remainders, tears or lacerations in the vulva, vagina or cervix, considering the possibility of uterine rupture).
- Encourage spontaneous vesical emptying (if necessary Folley catheter).
- Stop hemorrhage (see procedure depending to cause).
- If the placenta has come out and there is no lesion in soft parts:
 - Verify if it is complete.
 - Realize an external massage in the uterus deep part to encourage contraction. Continue until the uterus remains withdrawn; depending on the patient's condition, she should be able to do it herself.
- If the placenta has not come out, see protocol for placental retention.
- Identify blood donors and take blood samples from donor and receptor for group classification and Rh.
- Reference should be done with the patient accompanied by someone. The patient should be kept warm, lying in Trendelenburg position and if there is a soft part lesion apply an sterile vaginal tampon.

General Treatment

- If there are shock signs, catheterize vein with 100 cc, of Ringer or physiological serum.
- If soft part lesions have been discarded and / or placental remainders, administer oxytocin (20 to 40 oxytocin units and 500 cc of Ringer at 20 drops per minute) installed in the other way or in 'Y'.
- Methylergonovine, 0.2 mg intramuscular, if diastolic blood pressure is lower than 90 mm Hg.
- Methylergonovine should NEVER be used (or any other Rye ergot derivative) BEFORE the placenta detachment, because it can produce withdrawal rings in the uterus which will hinder hand entrance.
- For specific management and treatment see the corresponding protocol.

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Patient Information on
POST- PARTUM HEMORRHAGE

¿What problem do I have?

Problem explanation:

After your delivery you are losing more blood than usual. This may be that your matrix has not been able to contract, or it has not been able to adopt the size it had before pregnancy. We will examine all your private parts (reproductive apparatus) to see what is happening.

¿ What can happen to me?

Consequences of the problem:

This is a very delicate situation and you should be treated immediately. You can start losing a lot of blood and weaken yourself so as to endanger your life.

¿What are you going to do to me or are going to give me?

Treatment / procedure:

For level I

- We will take your blood pressure, temperature and pulse.
- We will ask you to urinate to assure your bladder is empty.
- We will administer a serum in your arm's vein in order to help you maintain hydrated.
- We will examine your private parts to determine the hemorrhage's cause.
- According to this, we will administer you some medicine to contract your matrix.

For Level II (Provide information level I and add this one)

- We will ask you to urinate to assure your bladder is empty. If you are not able, we will help you with a sound.
- We will assure ourselves that your placenta has come out completely.
- If you have any injury, we will sew you.
- If it is necessary, we will administer you some blood.

ATONY OR INERTIA POST -PARTUM UTERINE

Definition

It is the absence or deficiency of uterine contractions after delivery that provokes active hemorrhage in the post-partum and has the risk to produce hypovolemic shock and maternal death.

Clinical signs

- Plenty external hemorrhage.
- Sparkling red blood.
- General paleness.
- Perspiration, wet skin, dizziness, nausea, lipothymia.
- Arterial hypotension.
- Shock.
- Soft uterus, painful that increases its volume (there is no formation of the Pinard's security globus) when the abdomen is palpated.

Maternal risks

- Death caused by hemorrhage.
- Aggregate infection.
- Failure of the coagulation system.

Differential diagnosis

- Placental remainders retention.
- Uterine rupture.
- Cervix and vagina tears.

Management

- Explain the patient what is happening, the risks involved and what it should be done.
- Control vital signs (pulse and blood pressure every 15 minutes).

- Encourage the patient to urinate spontaneously or install Folley if necessary. Assure that bladder is empty.
- Perform a massage and external uterine compression, until the uterus remains contracted.
- Apply a sand or ice bag immediately on the upper rim of the uterus.

HEALTH POST

Treatment

- Catheterize butterfly needle No. 19 in forearm and administer:
 - Dextrose 500 cc at 5% plus 40 units of Oxytocin at 40 drops/minute.
 - Methylergonovine, 0.2 mg intramuscular (contraindicated for patients with hypertension and cardiophaty syndrome).

Referral criteria

- If the patient does respond to treatment in 1 hour at the most (according to the hemorrhage quantity and the compromise of the general condition of the patient).

HEALTH POST AND DISTRICT HOSPITAL

Laboratory tests

- Hemogram and sedimentation rate.
- Group and Rh.
- Coagulation and bleeding tests.
- Clot retraction test.

Treatment

- Catheterize butterfly needle No.19 in forearm and administer:
 - 500 cc of Dextrose at 5% , plus 40 units of Oxytocin at 40 drops/minute.
 - Methylergonovine 0.2 mg intramuscular (contraindicated for patients with hypertension and cardiopathies syndrome).

- If active hemorrhage persists without the formation of security globus, perform:
 - Review and clean uterine cavity bi-manually.
 - Review uterine segment and massage bi-manually.
- Control blood pressure every 15 minutes until patient is stable.
- Transfuse fresh blood if necessary.

Referral criteria

- If there is no formation of the security globus, hemorrhage continues and the general condition is compromised, refer patient with catheterized vein, Ringer 1,000 cc continuous dripping (gush).
- If it is not possible to identify the cause through the available resources.
- If there is need of blood transfusion.
- If there is coagulation alteration (coagulopathies).

Resources

- Dextrose serum / Ringer.
- Methylergonovine 0.2 mg.
- Butterfly needle No 19.
- Folley catheter / collecting bag.

Information to the patient on
ATONY OR UTERINE INERTIA

¿What problem do I have?

Problem explanation:

After delivery, your matrix has not been contracted or has not been able to recover the size it had before pregnancy. This situation is causing you hemorrhage and abdominal pain. This is the reason you are pale. Besides, you may be perspiring, feel dizzy and have nausea.

¿What can happen to me?

Consequences of the problem:

If the problem is not treated immediately, you can lose so much blood that you will get weak until you lose conscience and faint. Likewise, you may get an infection and a sobreparto. If we let time pass, we might not be able to solve this delicate situation.

¿What are you going to do to me or are going to give me?

Treatment / procedure:

For level I

- We will take your blood pressure, temperature and pulse.
- We will administer you serum in your forearm plus a medicine that will help your matrix to contract appropriately, and then the hemorrhage will diminish.
- We will ask you to urinate to assure your bladder is empty.
- We will massage your matrix externally to stimulate the necessary contraction.

For level II (Provide information level I and add this one).

- If it is necessary, we will administer you some blood.
- We will clean your matrix.
- We will put a sand bag over the upper rim of your matrix.

PLACENTAL RETENTION

Definition

It is the total or partial retention of the placenta and the ovular annexa 30 minutes after the fetus has come out, caused by uterine atony or abnormal insertion of the placenta. If there is no expulsion, it can get complicated with hemorrhage, severe anemia, shock and maternal death.

Clinical signs

- External hemorrhage over 500 cc, sparkling red blood.
- General paleness.
- Gradual decrease of blood pressure. Accelerated pulse, perspiration, wet skin, dizziness, nausea, lipothymia.
- Shock.
- When there is abdominal palpation:
 - Uterine contraction alteration.
 - Uterus increases volume, is soft and painful.
- When there is vaginal exam, there is a evidence of total or partial placenta retention (cotyledons or membranous remainders).

Differential diagnosis

- Atony or uterine inertia.
- Uterine rupture.
- Cervix and vagina tears.

General management

- Explain to the patient what is happening, the risks involved and what should be done.
- Control vital signs and watch the patient general state until it returns to normality.
- Install Folley catheter, if she has not urinated spontaneously.
- Try to quantify the volume of blood loss.

- Control anemia and treat.
- Identify blood donors.

WHEN THERE IS PLACENTA RETENTION

- Wait 45 minutes maximum after delivery, meanwhile perform:
 - Soft external uterine massage.
 - Perform soft traction of the cord to verify detachment (placenta may be in the vagina).
 - Perform a soft vaginal exam (following the cord's line) and verify if the placenta is in the vagina or cervix. If this were so, tract the cord softly in order to facilitate the expulsion.
 - Stop the handling if the cervix is closed firmly and refer immediately.
 - If the placenta keeps retained and you are not able to refer immediately, and only if you are trained, remove the placenta manually.

IN PRESENCE OF EXPULSION OF THE PLACENTA AND HEMORRHAGE

- Do an external massage of the uterus fundus to stimulate its contraction.
- Carefully review if the placenta is complete.
- Stimulate the nipple or place the newborn in the mother's breast.
- If the bleeding continues, perform bi-manual, external and internal, compression only if you are trained.
- If hemorrhage continues, refer the patient with catheterized vein, accompanied, keep her warm and in Trendelenburg position immediately.

HEALTH POST AND HEALTH CENTER

WHEN THERE IS PLACENTA RETENTION

- Hemogram and Sedimentation rate.
- Group and Rh.

General Treatment

- Catheterize vein with a butterfly needle No.19 in forearm and administer 1,000 cc of Ringer serum at 5%, 20 drops/minute.
- Antibiotic therapy, if manual extraction or bi- manual uterine compression has been made. 500 mg of Ampicillin, intramuscular or intravenous (1 dosage), continue with 500 mg every 6 hours, orally during 6-7 days.

WHEN THERE IS PLACENTA EXPULSION AND HEMORRHAGE

- Catheterize vein with butterfly needle No.19, if you have not done this before, and administer:
 - 500 cc of Dextrose at 5% or 500 cc of physiological salt solution, plus 10-20 oxytocin units, at 30-40 drops per minute.
 - Methylergonovine, Methergin or similar, 1 ampule intramuscular (contraindicated for hypertense and cardiopathies).

Referral criteria

- If there is confirmation or there is any doubt of ovular remainders retention.
- If hemorrhage continues although treatment has been applied.
- If available resource or training is deficient to apply the described treatment, refer patient as soon as possible.
- If patient requires blood transfusion or presents changes in the coagulation (coagulopathies).

DISTRICT HOSPITAL**Laboratory tests**

- Hemogram and sedimentation rate.
- Group and Rh.
- Coagulation and bleeding tests.
- Clot retraction test.

WHEN THERE IS PLACENTA RETENTION

- Wait 45 minutes at most; in the meantime verify placenta's detachment and if it is in the cervix or vagina, tract the cord softly.
- General anesthesia, 10 mg Diazepam intravenous.
- Review the uterine cavity and extract the placenta manually.
- Administer 0.2 mg of Methylergonovine intramuscular. If the patient is hypertense, 10 units of Oxytocin intramuscular.
- Review the delivery channel, discard soft parts lesions.
- Maintain dripping with 500 cc of Dextrose at 5%, plus 40 units of Oxytocin.
- Control vital signs every 15 minutes until patient is stable.
- If there is continuous hypotension and hemorrhage: 1,000 cc of Dextrose infusion at 5%, plus 40 units of Oxytocin at 40 drops/minute.
- When reviewing the cavity, the placenta is attached and does not come off easily, consider the presence of a placental pathology (acreta, increta, percreta), and refer the patient immediately.
- If there is uterine atony, place a sandbag in the uterine fundus.
- Observe patient condition and signs of shock.
- If there is manual extraction of the placenta: 500 mg of Ampicillin intramuscular or intravenous (1 dosage). Continue with 500 mg every 6 hours v.o during 5-7 days.

WHEN THERE IS PLACENTA EXPULSION WITH HEMORRHAGE

- External massage of the uterine fundus to stimulate contraction.
- Administer 500 cc of Dextrose at 5%, plus 40 units of Oxytocin.
- Apply 0.2 mg of Methylergonovine intravenous (if the patient is not hypertense).

- Thoroughly review the placenta's integrity.
- Under general anesthesia or 10 mg of Diazepam intravenous, review cervix and vagina.
- Watch and assess genital hemorrhage and signs of shock.
- If there are signs of gradual hypotension and persistent hemorrhage, review the uterine cavity manually.
- Stimulate nipple or place the newborn on the mother's breast.
- If bleeding continues, perform bi-manual compression, internal and external, only if you are trained.
- Antibiotic therapy, if manual extraction or bi - manual uterine compression has been made: 500 mg of Ampicillin intramuscular or intravenous (1 dosage). Continue with 500 mg every 6 hours, orally during 5-7 days.
- If in the first 24 hours there is major genital hemorrhage and there is tendency of sustained arterial hypotension, a manual review of the uterine cavity should be performed followed by immediate administration of oxytocin and ergonovins.
- If hemorrhage continues, refer patient with catheterized vein, accompanied, keep her warm and in Trendelenburg position immediately.

Referral criteria

- In the suspicion of placental pathology (acreta, increta or percreta placenta) refer the patient to level III.
- If the available resource or training is insufficient for the described management, refer the patient as soon as possible.
- If the patient requires blood transfusion or presents coagulation alterations (coagulopathies) or renal complication.

Resources

- Ringer solution / Dextrose.
- Oxytocin 5 Ul.
- Methylergonovine, 0.2 mg.

- Group and Rh.

Treatment

- Perform immediate correction of electrolytes and hemodynamics disorders.
- Catheterize vein and administer 1,000 cc of Ringer lactate or physiological salt solution at 40 drops per minute.
- Antibiotics:
 - 5 million of Sodium penicillin every 6 hours intramuscular.
 - 100 ml of metronidazol at 0.5% every 8 hours.
 - 1g of ampicillin every 8 hours intravenous.
 - 800 mg of cotrimoxazol every 12 hours.
- Adjust the treatment scheme to antibiogram if necessary.

Referral criteria

- Patient that does not improve with treatment and shows complications requires more complex care.

Resources

- Ampicillin 1g (small bottles).
- Cotrimoxazol.
- Ringer solution / physiological salt solution, 1,00 cc.
- Sodium penicillin.
- Metronidazole.
- De - phleboclysis Equipment.
- Folley catheter / Collecting catheter.

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**Information to the patient on
ENDOMYOMETRITIS**

¿ What problem do I have?

Problem explanation:

You have an infection in your matrix as a consequence of your delivery (or abortion). Thus, you have fever, severe abdominal pain, bleeding and foul smell secretion.

¿ What can happen to me?

Consequences of the problem:

If the problem is not treated immediately, infection can extend to all your body and provoke high fevers and complications for a long treatment this will represent permanent problems for yourself.

¿ What are you going to do to me or what going to give me?

Treatment / procedure:

For level I

- We will take your blood pressure, temperature and pulse.
- We will make sure your bladder is empty. The best for you is to urinate spontaneously but if it is not possible, we will put you a rubber catheter to empty your bladder of urine.
- We will put some solution in your arm vein to hydrate you and we will give you some medication.
- We will give you some antibiotics.
- We will give you some medication to reduce fever and relief pain.
- We will perform a thorough cleaning of your private parts with some medication.

For level II (Provide level I information and add this one).

- If possible, we will take a sample of your secretion and also a blood sample to determine the reason of your problem.

- In general, you should continue breast feeding your little baby.

PUERPERAL SEPSIS

Definition

It is a complication of the genital tract after delivery, abortion.

Clinical signs

- Pelvic pain.
- Fever equal or higher than 38.5 ° C, at least in one occasion during 24 hours.
- Tachycardia.
- Abnormal secretion or pus output.
- Foul smell vaginal secretion.
- Decrease of the normal rhythm of uterine regression (< 2cm per day in the first 8 days. From 20 cm to 2 cm over the pubic symphysis).

Precaution

- Observe if there are pelvic abscesses or of septicemia.
- A woman with puerperal sepsis could present hemorrhage.

Management

- Hospitalization.
- Explain the patient what is happening, the risks involved and the procedures that you will follow.
- Maintain the patient well hydrated.
- Control vital signs every 4 hours.
- Control evolution of lochia, presence of hemorrhage and complication signs.
- If puerperal sepsis is the result of an abortion, assess the need of a periosteotomy and plan the best moment to refer the patient or when to perform it (according to the

care level).

- If there is hemorrhage and does not yield to treatment, perform the periosteotomy immediately; if there is no hemorrhage, wait for the patient to be stable and hydrated (without fever, and controlled anemia).
- Do not stop breast feeding.
- Assess anemia presence and perform corresponding treatment according to the severity of the situation (see anemia protocol).

HEALTH POST

Treatment

- Refer the patient immediately, but first:
 - Administer 1g of penicillin intramuscular.
 - Catheterize vein and administer 1,000 cc of physiological salt at 40-60 drops per minute.

Referral criteria

- If there is any doubt of this complication, refer the patient immediately to level II.

HEALTH CENTER

Treatment

- If abdomen is sensible or painful to palpation, refer patient immediately, but first;
 - Administer 1g of ampicillin intramuscular.
 - Catheterize vein and administer 1,000 cc of physiological salt solution at 40-60 per minute.
- If there is no sensibility or abdominal pain and in not possible to perform referral, and only if you have the available resources you can confine the patient:
 - Catheterize vein and administer 1,000 cc of physiological salt solution at 40 -60 drops per minute.

-Administer 500 mg of ampicillin via oral every 6 hours during 5-7 days.

-If necessary, administer some analgesic (Panadol or Paracetamol), 1 tablet 2 or 3 times per day, if the woman is breast feeding do not give her Dipirona).

-Administer oxytocin to favor the uterine involution (Methergin or Methylergometrine) every 6 hours during 3 - 5 days.

-Administer 200 mg of ferrous sulphatum and 0.25 mg of folic acid twice per day (adjust dosage if there is anemia).

-If the progress is good, release the patient and ask her to come back in 2 weeks for a check up or she should come back immediately if signs of fever or vaginal bleeding appear.

Referral criteria

- If you do not have the available resources for the described management.
- If patient presents abdominal sensibility.
- If in 48 hours or before, there is no answer to treatment and the situation gets worse.

DISTRICT HOSPITAL

Treatment

- Same treatment described under Health Center.
- Assess the need to perform an instrumental periosteotomy, choose the right moment to do it, as described in the management.

Referral criteria

- If a pelvic abscess, septicemia or hemorrhage, abdominal pain or other sign of complication appears.
- Assess if there are the available resources for the described management; if not enough, refer patient to care level III.

Resources

- Ampicillin, 1 g.
- Paracetamol (tablets).
- Physiological salt solution, 1,000 cc.
- Methergin / Methylergonovine.
- Box for instrumental periosteotomy.

**Information to the patient on
PUERPERAL SEPSIS**

¿ What problem do I have?

Problem explanation:

You have an infection in your matrix "sobreparto" due your delivery (or abortion) was performed in anti-hygienic conditions.

¿ What can happen to me?

Consequences of the problem:

If the problem is not treated immediately, infection can extend to all your body and provoke temperature (or high fever) , severe abdominal pain, quick heart pounding, foul smell and secretion from your private parts. This can produce complications and be a problem for next pregnancies.

¿ What are you going to do and what will you give me?

Treatment / procedure:**For level I**

We will examine you to know where the infection is.

- We will take your blood pressure, temperature and pulse.
- We will ask you to urinate.
- You should continue breast feeding your baby.
- We will administer you some solution in your arm vein to hydrate you and we will give you some medications (antibiotics).

- We will give you some medication to reduce fever and relief the pain.
- We will perform a thorough cleaning of your private parts with some medication.
- We will send you to hospital.

For level II (Provide level I information and add this one).

- We will send you to hospital and examine you to know where the infection is.
- We will ask you to urinate. If this is not possible, we will put you a rubber catheter to help you.
- If possible, we will take a sample of your secretion and some blood sample to determine your problem cause.
- If necessary, we will clean your matrix using anesthesia.
- If after this treatment you do not feel better, we will refer you to a specialized hospital.

USE INFORMATION ON PUERPERAL SEPSIS
FOR THE FOLLOWING COMPLICATIONS:

INFECTIONS GYNeco - OBSTETRIC

OBSTETRIC APPENDAGITIS OR ADNEXITIS

PARAMETRITIS

OBSTETRIC PERITONITIS

OBSTETRIC PELVIPERITONITIS

DISSEMINATED INFECTIONS

Handling and treatment of disseminated infections should be performed under level II or III, depending on the available resources.

HEALTH POST AND HEALTH CENTER	DISTRICT HOSPITAL
Indicate the immediate referral of patients if you have any doubt or confirmation of having disseminated infection and signs and symptoms that suggest a located gyneco-obstetric infection which do not yield to treatment and indicate treatment for level I.	Indicate referral to level III as soon as possible if resources are not enough to perform described management or any complication appears and management and treatment requires a major complex level.

OBSTETRIC ADNEXITIS

Definition

- They are secondary infectious inflammations result of an obstetric infection of one or both annexes (tube and ovaries). It begins with a severe or even a more-severe chronic process consequence of delivery or abortion in septic conditions.
- The most common aspect is they present as adenomyosis (inflammation / infection in one or both tubes).
- Its sequel is secondary sterility.
- Fever
- Tachycardia.
- Perspiration.
- Dehydration.
- Pain when there is an hypogastric exam, bilateral or unilateral, continuous, of variable intensity.
- Signs of peritoneum irritation, abdominal muscle defense.

- In the gynecological and specuoscropy examination:
 - Hemal genital fluid, purulent and foul smelling.
 - Painful periodical discharges of purulent liquid that come out of the external cervical orifice.
 - Sometimes the fundus of the posterior bag becomes convex.
- Vaginal exam:
 - Half opened cervix, painful when it moves, deviated to the opposite side which is compromised.
 - In the posterior fundus sac when touched it is painful, high, long, irregular lump separated from the uterus.
 - Rectal exam does not provide major findings.

Laboratory tests and auxiliaries

- Hemogram, glycemia, speed in sedimentation (sedimentation rate).
- Culture and antibiogram of uterine fluid.
- Ecography to locate one or more complicated annexes.
- Potassium hydroxide test.

Management

- Hospitalization.
- Control of vital signs.
- Search for endomyotritis history.
- Explain the patient risks and procedures to be followed.
- Semi-sitting position rest (Fowler position).
- Control of diuresis and dehydration.
- Hydration.
- Perform anemia correction (see anemia protocol).

Treatment

- Prescribe analgesic and sedatives (500 mg of Paracetamol and 5 mg of Diazepan, according to necessity).
- Ample spectrum antibiotics in high dosages according to biogram at least for 15 days until clinical signs and laboratory results go back to normal.

Surgical treatment

- Laparotomy and annexectomy when there is an annex abscess that could develop in a generalized peritonitis and in chronic processes such as appendagitis, pio or hydrosalpinx.

PARAMETRITIS

Definition

- It is the infectious inflammation of the pelvic subperitoneal tissue (secondary to a located infection). According to its location, it can be:
 - Basilar: Located in the base of the broad ligaments, in the posterior parametrium or in the uterosacral ligaments.
 - High: Located between the broad ligaments.
 - Diffuse pelvic cellulite: generalized infection of all pelvic cellular tissue.

Clinical signs.

- Comparative between high and basilar parametritis:

BASILAR PARAMETRITIS	HIGH PARAMETRITIS
ANAMNESIS	ANAMNESIS
History on delivery or abortion with infectious complications.	History of previous delivery or abortion.
Cervical traumatism (IUD placing).	Cervical traumatism (IUD placing).
Fever and inflammatory signs in genital and abdomen.	Endometritis, lochiometra o pyometra.
Polycheiria, dysuria, push, tenesmus, mucosa and pus in the anus (irritation in surrounding organs).	Lower abdominal pain.

BASILAR PARAMETRITIS	HIGH PARAMETRITIS
PHYSICAL EXAMINATION	PHYSICAL EXAMINATION
Can not feel an inflammatory lump.	A painful hard tumor can be sensed that goes from the uterine fundus to the corresponding iliac hole.
When in vaginal examination, there is a process that covers the fundus of the corresponding bag that does not allow the uterine cervix to move.	Usually, it does not fluctuate.
The inflammatory process extends from the uterus to the iliac bone.	There are signs of local inflammation in the genitals
If there is no low parametrial danger, the fundus sacs are free.	

- Diffuse pelvic cellulite presents signs and symptoms that correspond to the sum of the two forementioned processes.

Differential diagnosis

- It is important to perform a differential diagnosis of the parametritis with a hematoma of the broad ligament with a post-cesarean abscess. In this case, the signs are more advanced and moreover, and it is accompanied by anemia and a lump which appears before the septic picture.

Management

- Hospitalization.
- Control of vital signs.
- Explain the patient what is happening, the risks involved and the procedures you will follow.
- Watch for diuresis.
- Watch dehydration.
- Improve the general condition of the patient (hydration).

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Laboratory tests and auxiliaries

- Culture and antibiogram of the uterine fluid.
- Complete hemogram.
- Glycemia.
- Hemoculture.
- Ecography.

Treatment

- Begin antibiotic therapy:
 - While you wait for the culture and antibiogram results, administer one of the following alternatives:
- Scheme one:**
- 1 g of Ampicillin intravenous every 6 hours.
- Scheme two:**
- 5 million of Sodium penicillin intravenous every 6 hours.
- Scheme three:**
- 80 mg. of Gentamicin intramuscular every 12 hours.
- Adjust treatment depending on antibiogram.

Surgical treatment

- In low parametritis: colpotomy and drainage.
- In high parametritis: laparotomy, drainage and placing of padded stitches in order to avoid a dehiscence of the sutures.

Resources

- Physiological salt solution / Ringer solution, 1,000 cc.

- Ampicillin, 1g (small bottles).
- Gentamicin, 80 mg.
- Phleboclysis.
- Laparotomy equipment.
- Drainage.

OBSTETRIC PERITONITIS

Definition

Obstetric peritonitis is the generalized inflammation from a secondary peritoneal cavity to an obstetric infection.

Classification

- Through direct inoculation of germs (by a surgical intervention, uterine perforation, metritis or parametritis).

Clinical signs

- Fever with a difference in temperature from axillar and rectal higher than 1°C, tachycardia, vomiting, tendency to shock.
- Abdominal distention with diffuse pain when touched.
- Abdominal muscular contracture or muscular defense.
- Painful reaction in the abdomen (positive sign of Geneau de Mussy).
- Tympanism and abdominal silence.
- It is important to consider the following aspects:
 - History on vomiting, abdominal pain, fever or diarrhea.
 - History on some type of obstetric infection or intrauterine or intraperitoneal surgical intervention.
 - It should be taken into account that some signs or symptoms can be disguised by the patient recent use of antibiotics.
 - Remember that in the puerperium, symptoms are less stressful.

Management

- Hospitalization.
- Explain patient what she has, risks involved and procedures to follow.
- Control of vital signs.

- Control of diuresis.
- Improve the general conditione:
 - Anemia correction.
 - Hydration (Ringer).
 - Correct electrolytic changes.
 - Nutritional support.
 - Analgesics.

Laboratory tests

- Hemogram.
- Electrolytes in blood.
- Hemoculture.
- Culture.
- Antibigram of peritoneal perspiration.

Treatment

- Prescribe antibiotic treatment with one of the following schemes:

Scheme one:

- 5 million of Sodium penicillin intramuscular every 6 hours.
- 1 g og Chloramphenicol intravenous every 8 hours.
- 500 mg of Metronidazole intravenous in 30 minutes or slow dripping every 8 hours.

Scheme two:

- 1 g of Ampicillin intravenous every 8 hours.
- 80 mg of Gentamicin intramuscular every 8 hours.

Scheme three:

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-500 mg of Metronidazole intravenous in 30 minutes and slow dropping every 8 hours.

-1 to 2 g of Cefotaxima intravenous every 8 hours.

-80 mg of Gentamicin intravenous every 8 hours or 500 mg of Amikacina every 8 hours.

- If there is a report on the culture and antibiogram, adjust treatment to its results.
- If the infection persists although the presence of an antibiotic therapy, consider the use of antimicrotics, prior to fungi culture.

Surgical treatment

- It should be performed early, before hemodynamic equilibrium and improvement of the general condition of the patient.
- Perform exploring laparotomy repairing or exeresis of the affected organs, peritoneal abluton and place drainage.
- Always consider contained laparotomy to give patient the possibility to undergo new ablutions in case there are remainders of abscesses in the cavity.

Inputs

- Physiological salt solution / Ringer 1,000 cc.
- Sodium penicillin.
- Gentamicin, 80 mg.
- Cloranfenicol 1g (bottles).
- Metronidazole, 500 mg.

OBSTETRIC PELVIPERITONITIS

Definition

It is a secondary pelvic peritoneous inflammation. Infection and inflammation tend to locate in the minor pelvis altogether with exuded matter in the lowest part of the peritoneum.

This infection can be cured totally, leave sequel or it can convert into a generalized peritonitis or an obstetric septicemia

Risk factors

- Previous obstetric infection.
- Uterine rupture.
- Abortion attempt.
- Dehiscence of hysterectomy.

Clinical signs

- They appear 7 days after the obstetric infection site has begun if dissemination is lymphatic or canalicular.
- Endanger the general condition of the patient, less than in a diffused peritonitis.
- Tachycardia, dehydration, polypnea, fever that presents a more than 1°C axilo-rectal.
- Pain in the lower part of the abdomen resistant to touch. Positive Geneau de Mussy, light meteorism.
- In the supraumbilical region, the abdomen is soft and it can be depressed but less painful.
- When there is vaginal examination, the uterus is sensed as if it was increasing its volume.
- At the beginning of the process, the Douglas is slightly painful, but if it turns into an abscess, a tumor is found that inflates the posterior fundus vaginal bag which is painful and with a separation furrow between lump and iliac bones.
- When the recto vaginal is examined a process that occupies the Douglas can be sensed between the uterosacral ligaments.

Management

- Hospitalization.
- Explain the patient about the clinical situation, risks involved and procedures to be followed.
- Control of vital signs every 6 hours.
- Diuresis control.
- Improve the general condition of the patient (hydration, nutritional support, sedatives, etc.).
- Perform posterior colpotomy.

Laboratory assays and auxiliaries

- Hemogram.
- Hemocultures.
- Culture of peritoneum exuded matter.
- Glycemia.
- Urine culture.
- Ecography.
- Simple abdomen X ray.

Treatment

- Correct dehydration, catheterize vein and administer 1,000 cc Lactate Ringer at 40-60 drops per minute.
- Begin antibiotic treatment with one of the following schemes:

Scheme one:

- 1 g of Ampicillin intravenous every 6 hours.
- 80 mg of Gentamicin intramuscular every 8 hours (Use this or the aminoglycoside only if there is a good renal functioning).
- 1 g of Chloramphenicol intravenous every 8 hours.

Scheme two:

-500 mg of Metranidazol intravenous in 30 minutes at slow dripping every 8 hours.

-1 or 2 g of Cefotaxima intravenous every 8 hours.

-80 mg of Gentamicin intravenous every 8 hours or 500 mg of Amikacina every 8 hours.

Scheme three:

-300 to 400 mg of Clindamicina intravenous every 6 hours.

-80 mg of Gentamicin intravenous every 8 hours.

- If there are culture and antibiogram reports, adjust treatment to its results.
- If infection persist although a good antibiotic therapy has been given, consider antimicoticos use, prior to a fungi culture.

Surgical treatment

- Douglas puncture and if there is pus, perform a colpoceliotomy.

Inputs

- Physiological salt solution / Ringer, 1,000 cc.
- Ampicillin, 1g.
- Chloramphenicol 1g (bottles).
- Metronidazole, 500 mg.
- Cefotaxima, 1g.
- Douglas puncture equipment.

GENERALIZED INFECTION SEPTIC SHOCK

Definition

It is a state of generalized hipoperfusion, of circulatory cause, secondary to a systemic action of bacterium toxins.

It is a major obstetric infection, that follows pregnancy, delivery or abortion.

Risk factors

- Premature rupture of membranes.
- Amnionitis.
- Severe urinary infection.
- Septic abortion.
- Periosteotomy with an active septic focus.
- Excessive examinations in ovular infection.

Clinical signs

- It could present:
 - Hemorrhage, dehydration, hemolysis.
 - Major hypothermia.
 - Arterial hypotension or tendency to arterial pressure descensus.
 - Oliguria or anuresis.
 - Psychomotor excitation, cold skin, cyanosis, icterus, slow capillary filling, soft pulse, cardiac riding, jugular ingurgitacion, polypnea, dyspnea, acidotic breathing.
- At a first stage patient presents dry and hot skin, fever higher than 38° C, reddish color in the face, low blood pressure, scarcity or absence of metrorrhage and aliguria tendency.
- In a second stage, when a later diagnosis is performed, patient presents humid and cold skin, limbs are pale, there is arterial hypotension, psychomotor excitement, tachycardia and sometimes icterus with choluria.

Management

- *The situation is severe and should be treated under level care III*
- Explain relatives what is happening, risks involved and the importance to accomplish such instructions.

HEALTH POST

Treatment

- In suspicion or confirmation, the patient should be referred immediately:
 - With vital signs already taken.
 - Catheterized vein (best with branula) with 1,000 cc Ringer serum.
 - Warm.
 - Accompanied.
 - Attach obtained information (vital signs, history on delivery or abortion, administered liquids, urine measures, patient's condition, etc.).

HEALTH CENTER AND DISTRICT HOSPITAL

Treatment

- In suspicion or confirmation, patient should be immediately referred:
 - With vital signs already taken.
 - Catheterized vein (best with branula) with 5 - 10 million serum Ringer plus sodium penicillin in 'bolus' and 1 g of Chloramphenicol intravenous.
 - Installed Folley solution, ideally connected to a bag or bottle of sterile urine.
 - Warm.
 - Accompanied.
 - Attach obtained information (vital signs, abortion or delivery background, adopted procedures, administered liquids, urine measurements, patient's condition. etc.).

Referral criteria

- Immediate if there is suspicion of septic shock.
- Every case of infected abortion.

Resources

- Physiological salt solution / Ringer serum, 1,000 cc.
- Sodium penicillin, 1,000,0000
- Chloramphenicol, 1g.
- Folley catheter / collecting bag.

Information to the patient or relatives on
SEPTIC SHOCK

¿ What problem do I have?

Problem explanation:

(If patient is unconscious, explain situation to the family).

You (your relative) has the most severe complication of an infection after delivery or abortion. This is consequence of not having treated the infection on time or not having received the adequate treatment.

¿ What can happen to me?

Consequences of the problem:

If the problem is not treated immediately, the infection can extend to all the body and produce high fever and mores severe complications. It is a very severe complication and your life is in danger.

¿ What are you going to do to me or going to give me?

Treatment / procedure:

For level I and II:

- We will take your blood pressure, temperature and pulse..
- We will administer you some solution in arm vein to hydrate you and we will give you some medications (antibiotics).
- As this is a serious problem. we will send you to a specialized hospital.
- We will ask one of your relatives to accompany you; you should be very warm.
- If you get dizzy or feel you are going to faint, we will ask you to lie down and with your feet in a higher position than your head.

BREAST INFECTIONS

Definition

- Breast infections generally caused by the wrong technique for breast feeding.
- They can complicate if they are not treated timely.
- Depending of their location, they can be:

In the nipple:

- Crevices (rupture, fissures, ulcers).

In the breast:

- Severe mastitis.
- Lymphangitis.
- breast abscess.

Crevice

- It is a solution of continuity or separation of the nipples or areola's epithelium, caused by the use of an inadequate technique of breast feeding (exaggerated pressure or traction of the nipple).
- It is the entrance door to streptococcus, staphylococcus and colibacillus.

HEALTH POST, HEALTH CENTER AND DISTRICT HOSPITAL

Management

- The management is essentially preventive.

During the prenatal control:

- Prepare mother for breast feeding.
- Stimulate trust in her natural capacity to breast feed. Talk to her husband, couple or relatives an the importance to support her.
- Assess type of nipple. If it is plain or umbilical, teach the patient rotation and soft nipple stretching to favor the protrusion capacity during nursing period. (Do not prescribe this if patient has premature delivery background).

- Teach breast feeding technique: mother and fetus' position, correct manner of suckling nipple and areola, breast emptying, etc.

During puerperium:

- Wash hands before breast feeding (specially if there is and infection or crevice).
- Personnel attending mother and the new born baby should wash their hands.
- Make sure the mother is using the right technique to breast feed in order to avoid crevices or fissures in the nipple.
- Give orientation to the mother on hydration and adequate nourishment using the available resources.

If there are crevices in the nipple:

- Explain the mother what she has, risks involved and the importance of following indications.
- If crevice is light, provide necessary support for the woman to continue direct breast feeding.
- Correct breast feeding technique, taking care that the baby's mouth is facing breast and make sure that nipple and areola are inside the new born's mouth during nursing.
- Say that after each suckling, the mother should cover her nipple and areola with materno milk and expose them to the sun and open air for a short while.
- If crevice is deep, tell her to obtain all the milk out of it manually, every 3-4 hours, and give it to the baby with a spoon during 1 or 2 days (you should give her guidance on the importance of hygiene concerning this procedure).
- Reinforce and observe the adequate use of the breast feeding technique.
- Do not stop the nursing period.
- Do not use any cicatrization ointment (humidity delays cicatrization).

Reference criterion

- If symptoms or signs of severe mastitis appear, and you do not have enough power to take a decision for the management, refer patient to a higher care level.

Information to the patient on
BREAST INFECTIONS

¿ What problem do I have?

Problem explanation:

You have a breast infection due to the injuries in your nipples. This produces you pain when you breast feed your baby, and could lead to an infection, fever and swelling of your breasts. Generally, this happens because the way you are feeding your little baby is not adequate.

¿ What can happen to me or to my little baby?

Consequences of the problem:

If the problem is not treated immediately, infection can extend and compromise your general health state and prevent you from breast feeding your little baby.

¿ What are you going to do to me or what will you give me ?

Treatment / procedure:

For level I and II

- We will take your blood pressure, temperature and pulse.
- The treatment will depend on the infection's gravity:
 - First, remember to wash your hands before feeding your baby, particularly if there is an infection or crevices.
 - If there are crevices or small injuries in your nipples, we will teach you how to breast feed your baby adequately and then we will ask you to show us how you do it. We will give you some indications to help your injuries cicatrization. It is important you keep on breast feeding your baby.

(Note: Explain the technique according to the protocol norm).

- If there are crevices or deep injuries in your nipple, we will teach you how to take out your milk manually, until your nipple is cured, and give it to your baby. We will give you some indications to help your injuries cicatrization. Once your injuries are cured, you can continue breast feeding your baby directly.

(Note: Explain the technique according to the protocol norm).

- Remember that after feeding your baby, you should cover your nipple and areola with your own milk and then, leave them uncovered in the open air exposed to the sun for a while.

- Continue breast feeding your little baby.

- Do not use any cicatrization ointment because humidity delays cicatrization.

SEVERE MASTITIS

Definition

It is the suppurating mammal infection during nursing period. The galactophore conducts or nipple crevices are the germs entrance door.

Risk factors

- A bad breast feeding technique.
- Insufficient cleanliness of the mother's hands or person that looks after her and her new born.
- Incomplete mammal emptying.
- Milk's retention.
- Missing one suckling.
- Mother's excessive tiredness.

Clinical signs

- It can be a serious compromise of the general state of the mother.
- Pain in the affected breast that increases with the breast feeding.
- Fever and chills.
- Reddening and tumefaction of the affected area.
- The affected breast can increase in volume.
- Reddening and edematous area.
- Sometimes there might be lacteous-purulent secretion from the nipple.
- Axillar adenopathy.
- It could involution or evolve into a parenchymatous mastitis or into an interstitial mastitis.

Management

- Once the mastitis has installed, it should be treated precociously in order to avoid that develops into a mammal abscess.

- Explain the mother what she has, risks involved and the importance to accomplish indications given.
- Prescribe rest (ideally, 24 -48 hours in bed).
- Plenty of liquids.
- Complete and frequent breast emptying.
- Do not stop breast feeding (infection is located in the extraglandular tissue).

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Treatment

- Analgesics and anti-inflammatory.
- Prescribe antibiotics: 250-500 mg of Cloxacilina every 6 hours orally during 10 days, or 250-500 mg of Eritromicin every 6 hours orally during 10 days.

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Referral criteria

- If after 48 hours there are not signs of improvement.
- If there is danger in the general condition of the patient.
- If there are not enough resources for the adequate management.

DISTRICT HOSPITAL

Referral criteria

- If there are complication signs and there are not enough resources for the adequate management.

Resources

- Cloxacilina, 250 mg.
- Eritromicin, 250 mg.
- Paracetamol (tablets).

Information to the patient on
SEVERE MASTITIS AND BREAST ABSCESS

¿ What problem do I have?

Problem explanation:

You have a severe infection in your breasts due to the crevices in your nipples. This can be a consequence of a number of reasons: for inadequate breast feeding, for not emptying your breasts completely when you feed your baby, for milk retention, for missing one suckling or because you are extremely exhausted. For that, you have fever, chills, pain, general sickness and your breasts are swollen.

¿ What can happen to me or to my little baby?

Consequences of the problem:

If the infection is not treated immediately, you can get sick and you will not be able to breast feed your baby.

If the problem continues, it can become a pus ball (mammary abscess), which can be taken out with anesthesia through a small cut in your breast.

¿ What are you going to do or what will you give me?

Treatment / procedure:

For level I and II

- We will take your blood pressure, temperature and pulse.
- You should rest in bed for one or two days.
- We will give you some medication to relieve pain, swelling and infection.
- You should drink plenty of water.
- Make sure your little baby empties your breast completely and frequently, using the adequate technique. (Note: refer to the outlined instructions of this protocol).
- You should continue breast feeding your baby. Your milk will not harm the baby.
- To prevent this from happening again, remember to feed your baby every time she or he is hungry, make sure you empty all milk from your breast.

Information to the patient on SEVERE MASTITIS AND BREAST ABSCESS

¿ What problem do I have?

Problem explanation:

You have a severe infection in your breasts due to the crevices in your nipples. This can be a consequence of a number of reasons: for inadequate breast feeding, for not emptying your breasts completely when you feed your baby, for milk retention, for missing one suckling or because you are extremely exhausted. For that, you have fever, chills, pain, general sickness and your breasts are swollen.

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Consequences of the problem:

If the infection is not treated immediately, you can get sick and you will not be able to breast feed your baby.

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Treatment / procedure:

For level I and II

- We will take your blood pressure, temperature and pulse.
- You should rest in bed for one or two days.
- We will give you some medication to relief pain, swelling and infection.
- You should drink plenty of water.
- Make sure your little baby empties your breast completely and frequently, using the adequate technique. (Note: refer to the outlined instructions of this protocol).
- You should continue breast feeding your baby. Your milk will not harm the baby.
- To prevent this from happening again, remember to feed your baby every time she or he is hungry, make sure you empty your breast of milk.

BREAST ABSCESS

Definition

It is a consequence of a late or insufficiently treated mastitis.

Management

- In general, it should be handled surgically, though it could empty itself spontaneously through a conduct.
- Explain the woman what she has, risks involved and procedures that you will follow.
- If there is spontaneous emptying, manage it according to what is indicated for a mastitis.
- If the abscess is drained far from the areola, the mother can breast feed from both sides, nursing is not contraindicated.

HEALTH POST AND HEALTH CENTER

Treatment

- Same treatment as for mastitis.

DISTRICT HOSPITAL

Treatment

- Surgical treatment consists in the abscess drainage, trying not to divide into section the galactophore conducts and without destroying the trabeculas unnecessarily.
- It should be widely pressed with the finger trying not to let any cavities without draining.
- Do not leave drainage that communicate two cuts.

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Referral criteria

- If there are no signs of improvement after 48 hours of treatment.
- If resources are not enough for an adequate management.